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# STUDY GUIDE FOR DENTALMAN

NAVY TRAINING COURSE  
NAVPERS 10675



U.S. Bureau of Naval Personnel  
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# STUDY GUIDE FOR DENTALMAN

A course in twenty assignments prepared under  
the supervision of the Bureau of Medicine  
and Surgery with the assistance of  
the Bureau of Naval Personnel.



NAVY TRAINING COURSES  
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## INFORMATION FOR PERSONS TAKING THIS COURSE

This course consists principally of Instruction Tests covering technical subjects in which the *Manual of Qualifications for Advancement in Rating* (Nav Pers 18068) requires that candidates for advancement to the Dentalman rate be examined. These tests are based on the *Handbook of the Hospital Corps, United States Navy*, 1939 edition, and *Handbook for Dental Technologists (General)*, 1945 edition. The study reference is given at the beginning of each test. Before you may be advanced in rating you must have completed satisfactorily the Navy Training Course for the rating to which you seek advancement, as required by the *Manual of Qualifications for Advancement in Rating*.

### INSTRUCTION TESTS

An "instruction test" is a series of statements covering the essential points of the text in the Handbook that has just been read and studied. After carefully reading the text of the assignment you should fill in the answers to every question in pencil from memory and then go back over the text and try to correct all mistakes. Next, you should check your answers with the correct answers, which are given in the back of the book. These, however, should not be referred to until you have done your best without that help. By following this procedure it is expected that you will go over each assignment three times.

The statements, or questions, used in this text are of four kinds: recall (correct word), multiple-choice, true-false, and matching. An example of each, with instructions, is given next.

#### RECALL

Write on the line or lines to the right of each statement the word or words omitted from that statement:

1. A Dentalman is a non-rated person of the \_\_\_\_ group. dental

In this case the correct word is "dental" and has, therefore, been written on the line to the right of the statement.

#### MULTIPLE-CHOICE

In this type of statement several answers are suggested. After each question there is a space provided in which to mark the letter of the best answer.



Select the one best answer to each problem and write its letter on the line at the right of the statement.

1. A Dentalman is a non-rated person of the

- (a) deck group.
- (b) medical group.
- (c) miscellaneous group.
- (d) dental group.

          d          

Since the correct answer is (d) the letter **d** has been written on the line at the right of the statement.

### TRUE - FALSE

In statements of this type some are true and some are false. Encircle the letter **T** if the statement is entirely true. If any part of the statement is false, encircle the letter **F**.

1. A Dentalman is a non-rated person of the dental group. **(T)F**  
Since this statement is true, the letter **T** has been encircled.

### MATCHING

In statements of this type words or phrases are placed in two columns. Those in the left-hand column (A) are preceded by a letter and those in the center column (B) are followed by a column of blank spaces.

In the space at the right of each item in list (B), print the letter of the one most closely related item in list (A).

**A**

**B**

- (a) The science which treats of life
- (b) The science which treats of the nature and properties of drugs
- (c) The science of micro-organisms
- (d) The science of serums

- 1. Bacteriology           c
- 2. Pharmacology           b
- 3. Biology           a

The science which treats of life (a) is biology 3; therefore, the letter **a** has been placed on the line to the right of item number 3. The science which treats of the nature and properties of drugs (b) is pharmacology 2; hence, **b** has been placed on the line to the right of 2. The science of microorganisms (c) is bacteriology 1; therefore, **c** has been placed on the line to the right of 1.



## QUALIFICATIONS

Dentalman is a rate of the fifth pay grade. The duties are primarily those of equipping dental cabinets with sterile instruments, dressings, and medicines, cleaning and servicing dental equipment, preparing trays for impressions, boxing and pouring impressions, polishing simple prosthetic appliances, maintaining dental records, and performing routine clinical duties.

The qualifications for advancement to the Dentalman rate are set forth in the *Manual of Qualifications for Advancement in Rating* (Nav Pers 18068). These are reprinted in the back of this book.

In addition to the technical qualifications for advancement in rating to Dentalman, there are certain military requirements in which all persons in the Navy must be qualified. The Navy being, first of all, a military organization, it is only natural that you be expected to know certain military facts which are considered basic. As a matter of fact, you must have successfully completed the military requirements before you may be examined in the technical requirements for Dentalman. These military requirements for non-rated persons are found in the *Manual of Qualifications for Advancement in Rating* (Nav Pers 18068). You may prepare for these military requirements by studying the *General Training Course for Non-Rated Men* (Nav Pers 10601) and *The Bluejacket's Manual*.

## ASSIGNMENT NO. 1

### BIOLOGY

Before you answer these questions study pages 7-13 in *Handbook of the Hospital Corps, U. S. Navy, 1939 edition.*

#### INSTRUCTION TEST

Encircle the letter *T* if the statement is entirely true. If any part of the statement is false, encircle the *F*.

- |  |   |   |
|--|---|---|
| 1. Biology is the general study of all forms of life.                          | T | F |
| 2. The fundamental unit of life is the cell.                                   | T | F |
| 3. The cell body consists of cytoplasm.  | T | F |
| 4. The nucleus is a small body of modified protoplasm within the cytoplasm.    | T | F |
| 5. Protoplasm is often called the physical basis of life.                      | T | F |
| 6. Simplest forms of animal and vegetable life consist of five cells.          | T | F |
| 7. Bacteria are unicellular microorganisms.                                    | T | F |
| 8. Amoeba is a unicellular animal organism.                                    | T | F |
| 9. A simple cell reproduces by a compound and unequal division into two parts. | T | F |
| 10. Tissues are groups of specialized cells similar in structure and function. | T | F |
| 11. An organ is a delimited mass of highly specialized tissue.                 | T | F |
| 12. Chromatin is found within the nucleus.                                     | T | F |
| 13. The centrosome is found within the nucleus.                                | T | F |
| 14. The plasma membrane is a thin film surrounding the cytoplasm.              | T | F |
| 15. Irritability or excitability is a property of all animal cells.            | T | F |
| 16. Protoplasm consists chiefly of proteins, salts, and water.                 | T | F |
| 17. The source of nutrition for the cells is tissue fluid.                     | T | F |

18. A single cause of irritability to a cell is termed a stimulus.	T	F
19. The plural of "stimulus" is "stimuli".	T	F
20. In order to reproduce, the parent cell divides into two daughter cells.	T	F
21. The daughter cells do not display the properties of the parent cell.	T	F
22. The asters are two star shaped structures which develop from the centrosome when a cell reproduces by division.	T	F
23. Mitosis is cell reproduction in which there are extensive preliminary changes in the nucleus.	T	F
24. Animal cells reproduce by amitosis.	T	F
25. The ovum is the parent cell in man.	T	F
26. Union of the spermatozoon and the ovum is called fertilization.	T	F
27. The fertilized ovum divides into three, six, nine, etc.	T	F
28. Destructive metabolism is termed katabolism.	T	F
29. Anabolism is the process the cell uses to build up new protoplasm.	T	F
30. Tissues in the human body are divided into ten main classes.	T	F
31. Epithelial tissue is the supporting tissue of the body.	T	F
32. Cuboidal, columnar, flat, squamous, and ciliated are divisions of connective tissue.	T	F
33. The epithelium lining the blood and lymph vessels is spoken of as endothelium.	T	F
34. The cells in epithelial tissue are joined together by intercellular substance.	T	F
35. Ciliated cells are generally columnar.	T	F
36. Stratified epithelium consists of cells arranged in distinct layers, with one layer above another.	T	F
37. The function of ciliated cells is to propel fluid or particles.	T	F



38. Connective tissue has considerable inter-cellular substance.	T	F
39. Fat replaces most of the cytoplasm in fat cells.	T	F
40. Fat tissue is known as adipose tissue.	T	F
41. Areolar tissue is found beneath the skin and between muscle fibers.	T	F
42. Gristle is known to the student of histology as cartilaginous tissue.	T	F
43. Yellow elastic fibers branching and uniting with each other are known as elastic tissue.	T	F
44. Fibrous tissue is found in the inner coats of blood vessels.	T	F
45. Fibrous tissue is found in tendons and ligaments.	T	F
46. Lymphoid tissue consists of a loose network of white fibers containing lymphoid cells.	T	F
47. The intercellular substance is not arranged in layers in osseous tissue.	T	F
48. Threadlike muscle fibers held together by delicate connective tissue make up muscle tissue.	T	F
49. Irritability, the response to stimulation, is not a property of muscle tissue.	T	F
50. Extensibility or the power to be stretched is not a property of muscle tissue.	T	F
51. Striated muscles can be controlled by the will.	T	F
52. The muscles of hollow organs are non-striated.	T	F
53. Non-striated muscles cannot be controlled by the will.	T	F
54. Blood and lymph may be considered as tissue.	T	F
55. The most highly specialized tissue in the body is nerve tissue.	T	F
56. Groups of organs which act together and have a common function are called systems.	T	F

## ASSIGNMENT NO. 2

### ANATOMY AND PHYSIOLOGY

#### OSTEOLOGY

Before you answer these questions study pages 14-24 in *Handbook of the Hospital Corps, U. S. Navy*, 1939 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

57. The study of the structure of bones is  
(a) biology. \_\_\_\_\_  
(b) anatomy. \_\_\_\_\_  
(c) myology. \_\_\_\_\_  
(d) osteology. \_\_\_\_\_
58. The study of the joints and articulations is called  
(a) hematology. \_\_\_\_\_  
(b) zoology. \_\_\_\_\_  
(c) arthrology. \_\_\_\_\_  
(d) physiography. \_\_\_\_\_
59. The bony framework of the body is termed the  
(a) skeleton. \_\_\_\_\_  
(b) outline. \_\_\_\_\_  
(c) sympathetic system. \_\_\_\_\_  
(d) structure. \_\_\_\_\_
60. Osseous tissue is commonly called  
(a) muscle. \_\_\_\_\_  
(b) bone. \_\_\_\_\_  
(c) fat. \_\_\_\_\_  
(d) cartilage. \_\_\_\_\_
61. The bones of the wrist and ankle are known as  
(a) long bones. \_\_\_\_\_  
(b) short bones. \_\_\_\_\_  
(c) flat bones. \_\_\_\_\_  
(d) irregular bones. \_\_\_\_\_

62. The skeleton of the adult is made up of  
(a) 150 bones. \_\_\_\_\_  
(b) 175 bones.  
(c) 206 bones.  
(d) 300 bones.
63. The number of bones in an upper extremity is  
(a) 64. \_\_\_\_\_  
(b) 78.  
(c) 85.  
(d) 105.
64. The bones of the lower extremities number  
(a) 62. \_\_\_\_\_  
(b) 78.  
(c) 85.  
(d) 101.
65. A process is known as  
(a) a prominence. \_\_\_\_\_  
(b) an outcropping.  
(c) an articulation.  
(d) a cusp.
66. A sinus is a  
(a) blind duct. \_\_\_\_\_  
(b) hole.  
(c) cavity within a bone.  
(d) foramen.
67. The irregular lines which unite the flat bones of the skull are  
(a) cranial canals. \_\_\_\_\_  
(b) sinuses.  
(c) sutures.  
(d) crests.
68. In life, the brain is held in the  
(a) facial cavity. \_\_\_\_\_  
(b) cranial cavity.  
(c) sella turcica.  
(d) occipital foramen.



69. The upper wall of the cranial cavity is called the  
(a) vault. \_\_\_\_\_  
(b) nave.  
(c) base of the skull.  
(d) foramen magnum.
70. The large opening in the base of the skull is called the  
(a) nutrient foramen. \_\_\_\_\_  
(b) foramen ovale.  
(c) foramen spinosum.  
(d) foramen magnum.
71. The temporal fossa is located  
(a) just behind the orbital cavity. \_\_\_\_\_  
(b) below the foramen magnum.  
(c) at the junction of the two parietal bones.  
(d) above the nasal cavity.
72. The number of bones in the face is  
(a) 10. \_\_\_\_\_  
(b) 15.  
(c) 20.  
(d) 25.
73. The horseshoe shaped bone of the jaw is the  
(a) mandible. \_\_\_\_\_  
(b) ramus.  
(c) temporal.  
(d) coronoid process.
74. The number of bones in the spinal column, including the sacrum, coccyx, and true vertebrae, is  
(a) 16. \_\_\_\_\_  
(b) 18.  
(c) 26.  
(d) 28.

75. The lower extremity of the spinal column is the  
(a) coccyx. \_\_\_\_\_  
(b) sacrum. \_\_\_\_\_  
(c) lumbar vertebrae.  
(d) sacral vertebrae.
76. The principal organs of circulation and respiration are contained in the  
(a) thorax. \_\_\_\_\_  
(b) coccyx.  
(c) sternum.  
(d) abdomen.
77. The manubrium, body, and xiphoid process are all parts of the  
(a) ribs. \_\_\_\_\_  
(b) sternum.  
(c) back part of the chest wall.  
(d) thorax.
78. The number of ribs is  
(a) 5 pairs. \_\_\_\_\_  
(b) 12 pairs.  
(c) 16 pairs.  
(d) 8 pairs.
79. The two lowest ribs are called floating ribs because they are  
(a) free at both ends. \_\_\_\_\_  
(b) free at one end.  
(c) attached in the middle.  
(d) attached at both ends.
80. The collar bone is known anatomically as the  
(a) humerus. \_\_\_\_\_  
(b) manubrium sterni.  
(c) clavicle.  
(d) scapula.
81. The scapula is  
(a) flat and triangular in shape. \_\_\_\_\_  
(b) curved and round in shape.  
(c) rectangular in shape.  
(d) square in shape.

82. The head of the humerus articulates with the \_\_\_\_\_
- (a) glenoid cavity of the scapula.
  - (b) olecranon process of the radius.
  - (c) symphysis pubis.
  - (d) lateral epicondyles.
83. The ulna and radius make up the \_\_\_\_\_
- (a) thigh.
  - (b) hip.
  - (c) forearm.
  - (d) leg.
84. In each finger there are \_\_\_\_\_
- (a) 2 phalanges.
  - (b) 3 phalanges.
  - (c) 5 phalanges.
  - (d) 7 phalanges.
85. The bone of the thigh is called the \_\_\_\_\_
- (a) tibia.
  - (b) femur.
  - (c) fibula.
  - (d) patella.
86. The knee bone is anatomically known as the \_\_\_\_\_
- (a) patella.
  - (b) quadriceps.
  - (c) tibia.
  - (d) lesser trochanter.
87. The tarsal bones are located in the \_\_\_\_\_
- (a) knee joint.
  - (b) junction of the femur with the tibia.
  - (c) ankle.
  - (d) hand.
88. Synovial fluid serves to \_\_\_\_\_
- (a) lubricate the joints of the skeleton.
  - (b) maintain the osmotic pressure.
  - (c) sheath the phalanges.
  - (d) act as an insulating medium.



89. Bones entering into a joint are held together by strong bands of fibrous tissue called

- (a) ligaments.
  - (b) epithelial tissue.
  - (c) cul de sac.
  - (d) synovial discs.
-

## ASSIGNMENT NO. 3

### ANATOMY AND PHYSIOLOGY

#### MYOLOGY

Before you answer these questions study pages 24-28, in *Handbook of the Hospital Corps, U. S. Navy*, 1939 edition, and pages 87-91, in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

90. The study of the structure and functions of muscles is

(a) biology.  
(b) myology.  
(c) embryology.  
(d) hematology.

\_\_\_\_\_

91. Muscles vary in shape according to

(a) the work they do.  
(b) the nature of their nerve impulse.  
(c) whether they are located in the upper or lower extremity.  
(d) the racial characteristics of the body.

\_\_\_\_\_

92. Muscles form approximately

(a) 20% - 30% of the body weight.  
(b) 40% - 50% of the body weight.  
(c) 60% - 70% of the body weight.  
(d) 70% - 80% of the body weight.

\_\_\_\_\_

93. The fixed attachment of a skeletal muscle is known as the

(a) origin.  
(b) insertion.  
(c) supination point.  
(d) abutment.

\_\_\_\_\_

94. The attachment of a skeletal muscle which moves is the  
(a) abutment. \_\_\_\_\_  
(b) origin.  
(c) insertion.  
(d) supination point.
95. When tendons are flat and thin, their name is  
(a) perimysium. \_\_\_\_\_  
(b) aponeuroses.  
(c) fasciae.  
(d) sheaths.
96. Tendons unite with the periosteum of bones to form  
(a) attachments of muscles. \_\_\_\_\_  
(b) a thin perichondrium.  
(c) a sub-periosteal layer.  
(d) elastic fibrous tissue.
97. Muscles are kept in position and place during movement by  
(a) fasciae. \_\_\_\_\_  
(b) tendons.  
(c) ligaments.  
(d) the sarcolemma.
98. Rigor mortis is  
(a) a state of muscle elasticity. \_\_\_\_\_  
(b) a stiffening of the muscles after death.  
(c) the act of deglutition.  
(d) a normal muscle tone.
99. The insertion of the masseter muscle is in the  
(a) anterior border of the symphysis mentis. \_\_\_\_\_  
(b) inferior border of the body of the mandible.  
(c) external surface of the ramus of the mandible.  
(d) sigmoid notch.



100. The number of muscles of mastication is  
(a) four. \_\_\_\_\_  
(b) five.  
(c) six.  
(d) seven.
101. The most powerful muscle of mastication is the  
(a) temporal. \_\_\_\_\_  
(b) buccinator.  
(c) masseter.  
(d) internal pterygoid.
102. The origin of the temporal muscle is in the  
(a) zygomatic arch. \_\_\_\_\_  
(b) frontal process.  
(c) infraorbital ridge.  
(d) temporal fossa and fascia.
103. The particular nerve which supplies the temporal muscle is known as the  
(a) auditory. \_\_\_\_\_  
(b) vagus.  
(c) trigeminal.  
(d) olfactory.
104. The external pterygoid muscle arises from  
(a) two heads. \_\_\_\_\_  
(b) three heads.  
(c) four heads.  
(d) five heads.
105. The buccinator muscle arises from the  
(a) alveolar arches of the maxillae and mandible. \_\_\_\_\_  
(b) inner surface of the pyramidal process of the palate bone.  
(c) lateral pterygoid plate.  
(d) inferior border of the body of the mandible.
106. The biceps arises by  
(a) two heads. \_\_\_\_\_  
(b) three heads.  
(c) four heads.  
(d) five heads.

107. The diaphragm separates the  
(a) thoracic and abdominal cavities. \_\_\_\_\_  
(b) oral cavity from the esophagus.  
(c) gall bladder from the kidney.  
(d) left lobe of the lung from the right lung.
108. The principal action of the temporal muscle is to  
(a) open the jaw. \_\_\_\_\_  
(b) close the jaw.  
(c) move the temporal bone.  
(d) aid in the closing of the eye.
109. The sternocleidomastoid muscle is found in the  
(a) thigh. \_\_\_\_\_  
(b) leg.  
(c) chest.  
(d) neck.
110. The muscle which flexes the head laterally and rotates it to the opposite side is the  
(a) internal pterygoid. \_\_\_\_\_  
(b) subscapular.  
(c) sternocleidomastoid.  
(d) deltoid.
111. The biceps brachii muscle is located on  
(a) the femur. \_\_\_\_\_  
(b) the first rib.  
(c) the front of the arm.  
(d) the inner aspect of the leg.

## ASSIGNMENT NO. 4

### ANATOMY AND PHYSIOLOGY

#### THE BLOOD AND THE BLOOD VASCULAR SYSTEM

Before you answer these questions study pages 29-46, in *Handbook of the Hospital Corps, U. S. Navy*, 1939 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

112. Blood is kept circulating by

(a) force of the heart beat. \_\_\_\_\_

(b) peristaltic action.

(c) opening and closing of the arterial valves.

(d) capillary action.

113. Normally, blood is

(a) acid. \_\_\_\_\_

(b) alkaline.

(c) neutral.

114. The average adult weighing 160 pounds has

(a) 4 quarts of blood. \_\_\_\_\_

(b) 5 quarts of blood.

(c) 6 quarts of blood.

(d) 7 quarts of blood.

115. Oxidation in all tissues produces

(a) hydrogen. \_\_\_\_\_

(b) nitrogen.

(c) carbon dioxide.

(d) oxygen.

116. Muscular activity produces

(a) lactic acid. \_\_\_\_\_

(b) phenols.

(c) enterokinase.

(d) antiprotease.

117. Buffers aid in maintaining  
(a) the acid-base equilibrium. \_\_\_\_\_  
(b) the muscle tone. \_\_\_\_\_  
(c) the production of lactic acid. \_\_\_\_\_  
(d) neutral reaction of the blood. \_\_\_\_\_
118. Neutralization of acids in the blood is accomplished by  
(a) chlorides. \_\_\_\_\_  
(b) bicarbonates. \_\_\_\_\_  
(c) sulfates. \_\_\_\_\_  
(d) sulfites. \_\_\_\_\_
119. Hemoglobin gives up its chlorine in the  
(a) pancreas. \_\_\_\_\_  
(b) liver. \_\_\_\_\_  
(c) lungs. \_\_\_\_\_  
(d) kidneys. \_\_\_\_\_
120. The respiratory center is stimulated by  
(a) an increase in carbon dioxide. \_\_\_\_\_  
(b) the vegetative nervous system. \_\_\_\_\_  
(c) alkaline content of the blood. \_\_\_\_\_  
(d) nitrogen content of the blood. \_\_\_\_\_
121. Elimination of the acids from the body is largely accomplished through the function of the  
(a) lungs. \_\_\_\_\_  
(b) spleen. \_\_\_\_\_  
(c) kidneys. \_\_\_\_\_  
(d) alkali reserve. \_\_\_\_\_
122. The normal reaction of the urine is  
(a) alkaline. \_\_\_\_\_  
(b) neutral. \_\_\_\_\_  
(c) acid. \_\_\_\_\_
123. Acid is usually eliminated in the form of  
(a) acid carbonates. \_\_\_\_\_  
(b) acid fluorides. \_\_\_\_\_  
(c) acid phosphates. \_\_\_\_\_  
(d) acid sulfates. \_\_\_\_\_



124. Antitoxins neutralize
- (a) poisons produced by bacteria. \_\_\_\_\_
  - (b) the action of the agglutinins. \_\_\_\_\_
  - (c) hormone action. \_\_\_\_\_
  - (d) the action of precipitins. \_\_\_\_\_
125. The solid or semi-solid matter found in an abscess is called
- (a) desquamated epithelial cells. \_\_\_\_\_
  - (b) pus. \_\_\_\_\_
  - (c) antigens. \_\_\_\_\_
  - (d) oxidase. \_\_\_\_\_
126. Excessive loss of blood in injuries is prevented by
- (a) increase in the heart beat. \_\_\_\_\_
  - (b) venous stasis. \_\_\_\_\_
  - (c) clotting. \_\_\_\_\_
  - (d) thrombosis. \_\_\_\_\_
127. In the adult male, red blood cells number about
- (a) 2,000,000 per cubic mm. \_\_\_\_\_
  - (b) 3,000,000 per cubic mm. \_\_\_\_\_
  - (c) 4,000,000 per cubic mm. \_\_\_\_\_
  - (d) 5,000,000 per cubic mm. \_\_\_\_\_
128. The red color of erythrocytes is due to
- (a) heparin. \_\_\_\_\_
  - (b) cephalin. \_\_\_\_\_
  - (c) hemoglobin. \_\_\_\_\_
  - (d) color inherent in the cell wall. \_\_\_\_\_
129. Oxygen is carried from the lungs to the body tissues in the form of
- (a) carbon monoxide hemoglobin. \_\_\_\_\_
  - (b) oxyhemoglobin. \_\_\_\_\_
  - (c) carbon dioxide hemoglobin. \_\_\_\_\_
  - (d) monohemoglobin. \_\_\_\_\_
130. The adult red cells are produced in the
- (a) kidney. \_\_\_\_\_
  - (b) liver. \_\_\_\_\_
  - (c) red bone marrow. \_\_\_\_\_
  - (d) spleen. \_\_\_\_\_

131. White blood cells number
- (a) 4,000–5,000 per cubic mm. \_\_\_\_\_
  - (b) 5,000–6,000 per cubic mm. \_\_\_\_\_
  - (c) 6,000–8,000 per cubic mm. \_\_\_\_\_
  - (d) 9,000–10,000 per cubic mm. \_\_\_\_\_
132. Phagocytosis is the process of
- (a) ingesting and destroying bacteria. \_\_\_\_\_
  - (b) formation of leucocytes. \_\_\_\_\_
  - (c) destruction of red cells. \_\_\_\_\_
  - (d) digesting fats in the blood. \_\_\_\_\_
133. The heart is located
- (a) behind and to the right of the thoracic cavity. \_\_\_\_\_
  - (b) in the front and center of the thoracic cavity. \_\_\_\_\_
  - (c) in the folds of the pleura. \_\_\_\_\_
  - (d) at the base of the manubrium sterni. \_\_\_\_\_
134. The heart of an adult is about the size of a
- (a) cantaloupe \_\_\_\_\_
  - (b) one year old child's head \_\_\_\_\_
  - (c) closed fist. \_\_\_\_\_
  - (d) lemon. \_\_\_\_\_
135. The pericardium is the
- (a) fibro-serous membrane enclosing the heart. \_\_\_\_\_
  - (b) division of the ventricles of the heart. \_\_\_\_\_
  - (c) apex of the heart. \_\_\_\_\_
  - (d) base of the heart. \_\_\_\_\_
136. The pericardial fluid
- (a) oils the auriculoventricular valves. \_\_\_\_\_
  - (b) is injected into the chordae tendinae. \_\_\_\_\_
  - (c) lubricates the surfaces of the pericardium. \_\_\_\_\_
  - (d) circulates through the auricles. \_\_\_\_\_

137. The receiving chamber of the heart is known as the
- (a) antechamber. \_\_\_\_\_
  - (b) porte cochere. \_\_\_\_\_
  - (c) auricle. \_\_\_\_\_
  - (d) petrous portion. \_\_\_\_\_
138. Ventricles of the heart are
- (a) muscles in the apex. \_\_\_\_\_
  - (b) muscles in the base. \_\_\_\_\_
  - (c) ejecting chambers. \_\_\_\_\_
  - (d) oxygenating spaces. \_\_\_\_\_
139. The cavities of the heart number
- (a) four. \_\_\_\_\_
  - (b) five. \_\_\_\_\_
  - (c) six. \_\_\_\_\_
  - (d) seven. \_\_\_\_\_
140. The contractions and dilatations of the heart in a normal adult occur normally at the rate of
- (a) 65 per minute. \_\_\_\_\_
  - (b) 70 per minute. \_\_\_\_\_
  - (c) 72 per minute. \_\_\_\_\_
  - (d) 85 per minute. \_\_\_\_\_
141. Contraction of the heart is known as
- (a) apnea. \_\_\_\_\_
  - (b) aphasia. \_\_\_\_\_
  - (c) anorexia. \_\_\_\_\_
  - (d) systole. \_\_\_\_\_
142. Dilatation of the heart is know as
- (a) diastole. \_\_\_\_\_
  - (b) peristalsis. \_\_\_\_\_
  - (c) mononucleosis. \_\_\_\_\_
  - (d) a period of work. \_\_\_\_\_
143. The stethoscope is used to detect
- (a) sugar in the urine. \_\_\_\_\_
  - (b) infection of the middle ear. \_\_\_\_\_
  - (c) heart sounds. \_\_\_\_\_
  - (d) lesions of the pharynx. \_\_\_\_\_

144. The normal heart produces  
 (a) two distinct sounds. \_\_\_\_\_  
 (b) three distinct sounds.  
 (c) five distinct sounds.  
 (d) seven distinct sounds.
145. Arteries consist of  
 (a) two layers. \_\_\_\_\_  
 (b) three layers.  
 (c) five layers.  
 (d) seven layers.
146. The blood passes from the arteries to the veins by means of  
 (a) capillaries. \_\_\_\_\_  
 (b) venules.  
 (c) small arteries.  
 (d) osmosis.
147. The hollow collapsible tubes that carry blood to the heart are  
 (a) the ascending aorta. \_\_\_\_\_  
 (b) the right and left coronary arteries.  
 (c) veins.  
 (d) capillaries.
148. When the external iliac artery enters the thigh it is known as the  
 (a) anterior and posterior tibial. \_\_\_\_\_  
 (b) femoral artery.  
 (c) internal iliac artery.  
 (d) the inguinal artery.
149. Veins differ from arteries in that they  
 (a) are thinner and contain valves. \_\_\_\_\_  
 (b) are more muscular.  
 (c) have five coats.  
 (d) are more numerous.

Encircle the letter *T* if the statement is entirely true. If any part of the statement is false, encircle the *F*.

150. Fibrinogen is a normal constituent of lymph. T F
151. Fibrinogen by itself is very active. T F



152.	A person having the disease hemophilia is known as a hemophiliac.	T	F
153.	When water is extracted from red blood cells they become crenated.	T	F
154.	White blood cells are non-nucleated.	T	F
155.	Leucocytes have the power of passing through the walls of blood vessels into the surrounding tissues.	T	F
156.	The different types of white blood cells are recognized under the microscope by their reactions to stains.	T	F
157.	The blood vascular system consists of the heart, arteries, capillaries, and veins.	T	F
158.	The heart is a hollow muscular organ.	T	F
159.	The base of the heart points downward and forward.	T	F
160.	The myocardium is the muscle tissue of the heart.	T	F
161.	The mitral valve has three triangular shaped cusps.	T	F
162.	During a complete cardiac cycle the blood is received in and ejected from the heart cavities.	T	F
163.	The semilunar valves in the ventricle open upon ejection of the blood.	T	F
164.	The auricles are filled while the ventricles are relaxed.	T	F
165.	Lymph is a fluid rich in red blood cells.	T	F
166.	The tissues and organs of the body are bathed in lymph.	T	F
167.	Lymph serves as a medium for carrying nourishment and oxygen to the tissues and waste products from them.	T	F
168.	The flow of lymph in the lymph-vascular system is always toward the tissues.	T	F

## ASSIGNMENT NO. 5

### ANATOMY AND PHYSIOLOGY

#### THE RESPIRATORY SYSTEM AND RESPIRATION

Before you answer these questions study pages 46-51 in *Handbook of the Hospital Corps, U. S. Navy, 1939 edition.*

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

169. The process of gaseous exchange between a living organism and the medium in which it lives is known as  
(a) endomembranous formation. \_\_\_\_\_  
(b) pretracheal development. \_\_\_\_\_  
(c) respiration. \_\_\_\_\_  
(d) mastication. \_\_\_\_\_
170. Of the gases in the air, the one most vital to animal life is  
(a) helium. \_\_\_\_\_  
(b) neon. \_\_\_\_\_  
(c) nitrogen. \_\_\_\_\_  
(d) oxygen. \_\_\_\_\_
171. One of the waste products of metabolism is  
(a) carbon dioxide. \_\_\_\_\_  
(b) carbon monoxide. \_\_\_\_\_  
(c) oxygen. \_\_\_\_\_  
(d) desquamated squamous epithelium. \_\_\_\_\_
172. In the process of respiration carbon dioxide is exchanged for  
(a) nitrogen. \_\_\_\_\_  
(b) helium. \_\_\_\_\_  
(c) oxygen. \_\_\_\_\_  
(d) methane. \_\_\_\_\_

173. Gaseous exchange is accomplished in the air breathing vertebrates by means of
- (a) gills or lungs. \_\_\_\_\_
  - (b) the nasal chambers.
  - (c) the pulmonary pleura.
  - (d) the act of deglutition.
174. The normal entrances for air to the respiratory tract are the
- (a) venous sinuses. \_\_\_\_\_
  - (b) nasal chambers.
  - (c) trachea.
  - (d) bronchi.
175. The inspired air is warmed and moistened by
- (a) the mucous membrane in the nasal cavities. \_\_\_\_\_
  - (b) the antrum of Highmore.
  - (c) the cilia of the respiratory membranes.
  - (d) the olfactory glands.
176. The nasal chambers are separated by the
- (a) os calcis. \_\_\_\_\_
  - (b) nasal septum.
  - (c) buccal mucous membrane.
  - (d) ethmoidal air cells.
177. The nasal chambers open posteriorly into the
- (a) larynx. \_\_\_\_\_
  - (b) trachea.
  - (c) pharynx.
  - (d) anterior faucial pillars.
178. The passageway for air between the nasal chambers and the larynx is the
- (a) pharynx. \_\_\_\_\_
  - (b) hyoid.
  - (c) epiglottis.
  - (d) mouth.

179. The larynx is commonly known as the  
(a) Adam's apple. \_\_\_\_\_  
(b) organ of voice.  
(c) costal pleura.  
(d) epiglottis.
180. The larynx opens above into the pharynx and below into the  
(a) thyroid space. \_\_\_\_\_  
(b) trachea.  
(c) epiglottis.  
(d) nasal chambers.
181. The so-called Adam's apple is the  
(a) cricoid cartilage. \_\_\_\_\_  
(b) inguinal ring.  
(c) thyroid cartilage.  
(d) oesophagus.
182. The right lung has  
(a) two lobes. \_\_\_\_\_  
(b) three lobes.  
(c) four lobes.  
(d) five lobes.
183. The left lung has  
(a) two lobes. \_\_\_\_\_  
(b) three lobes.  
(c) four lobes.  
(d) five lobes.
184. The rib surface of the lung is  
(a) biconcave. \_\_\_\_\_  
(b) convex.  
(c) angular.  
(d) straight.
185. The circulation that brings the blood from the right heart to the lungs and returns it to the left heart is known as the  
(a) pleural circulation. \_\_\_\_\_  
(b) pulmonary circulation.  
(c) pericardial circulation.  
(d) visceral circulation.



186. The lining of the thoracic cavity and envelopment of the lungs is called the
- (a) pleura. \_\_\_\_\_
  - (b) pericardial sac. \_\_\_\_\_
  - (c) alveoli. \_\_\_\_\_
  - (d) alveolar sheath. \_\_\_\_\_
187. The pleura covers the
- (a) lungs. \_\_\_\_\_
  - (b) heart. \_\_\_\_\_
  - (c) large intestine. \_\_\_\_\_
  - (d) stomach. \_\_\_\_\_
188. External respiration takes place in the
- (a) nasal cavities. \_\_\_\_\_
  - (b) mouth. \_\_\_\_\_
  - (c) lungs. \_\_\_\_\_
  - (d) bronchus. \_\_\_\_\_
189. Internal respiration takes place
- (a) between the blood and tissues. \_\_\_\_\_
  - (b) between the heart and lungs. \_\_\_\_\_
  - (c) between the auricle and ventricle. \_\_\_\_\_
  - (d) in the hilum of the left lung. \_\_\_\_\_

## ASSIGNMENT NO. 6

### ANATOMY AND PHYSIOLOGY

#### THE DIGESTIVE SYSTEM AND DIGESTION

Before you answer these questions study pages 51-61 in *Handbook of the Hospital Corps, U. S. Navy, 1939 edition.*

#### INSTRUCTION TEST

Write on the line or lines to the right of each statement the word or words omitted from that statement.

190. The conversion of food substances into simpler substances so that they may be readily absorbed is known as \_\_\_\_\_.
191. The dividing of food into small particles by means of the teeth is called \_\_\_\_\_.
192. The transfer of food from the mouth to the stomach is called \_\_\_\_\_ (or swallowing).
193. The term given to the act of expelling faeces from the rectum is \_\_\_\_\_.
194. The continuous tube extending from the mouth to the anus and composed of the mouth, pharynx, esophagus, stomach, and small and large intestine is called the \_\_\_\_\_.
195. The mouth opens posteriorly into the \_\_\_\_\_.
196. The muscular organ occupying the floor of the mouth is called the \_\_\_\_\_.
197. The largest cavity in the body containing the stomach, liver, intestine, etc. is called the \_\_\_\_\_ cavity.
198. The continuous smooth membrane covering the wall of the abdominal cavity and the surfaces of the organs within it is the \_\_\_\_\_.

199. The hollow muscular organ, which lies in the abdomen, connected with the aesophagus above and the duodenum at its other extremity is called the \_\_\_\_\_.
200. The duodenum, jejunum, and ileum are parts of the \_\_\_\_\_.
201. The caecum and ascending colon are parts of the \_\_\_\_\_.

Select the one best answer to each problem and write its letter on the line at the right.

202. A bolus of food is
- (a) food ready for deglutition. \_\_\_\_\_
  - (b) food ready for mastication.
  - (c) food ready for defaecation.
  - (d) food ready for hepatic action.
203. In the stomach the food is thoroughly mixed with
- (a) pancreatic juice. \_\_\_\_\_
  - (b) hepatic juice.
  - (c) gastric juice.
  - (d) renal juice.
204. Indigestible waste material is expelled from the body by the act of
- (a) deglutition. \_\_\_\_\_
  - (b) mastication.
  - (c) adsorption.
  - (d) defaecation.

## ASSIGNMENT NO. 7

### ANATOMY AND PHYSIOLOGY

#### THE NERVOUS SYSTEM

Before you answer these questions study pages 71-84 in *Handbook of the Hospital Corps, U. S. Navy, 1939 edition.*

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

205. The unicellular organism which is the lowest form of animal life is known as the  
(a) Metazoon. \_\_\_\_\_  
(b) culex. \_\_\_\_\_  
(c) spermatozoon. \_\_\_\_\_  
(d) Amoeba. \_\_\_\_\_
206. One of the following organisms possesses no distinctive form of nervous system  
(a) Metazoon. \_\_\_\_\_  
(b) lumbricus. \_\_\_\_\_  
(c) stomoxys. \_\_\_\_\_  
(d) Amoeba. \_\_\_\_\_
207. The weight of the brain is about  
(a) ten ounces. \_\_\_\_\_  
(b) one pound. \_\_\_\_\_  
(c) one and one-half pounds. \_\_\_\_\_  
(d) three pounds. \_\_\_\_\_
208. The outer layer of the brain is made up of  
(a) white matter. \_\_\_\_\_  
(b) gray matter. \_\_\_\_\_  
(c) the arachnoid. \_\_\_\_\_  
(d) red matter. \_\_\_\_\_
209. The gray matter is composed largely of  
(a) nerve cells. \_\_\_\_\_  
(b) nerve fibers. \_\_\_\_\_  
(c) axone fibers. \_\_\_\_\_  
(d) spinal nerve endings. \_\_\_\_\_



210. The white matter consists principally of  
(a) nerve fibers. \_\_\_\_\_  
(b) nerve cells.  
(c) axone fibers.  
(d) afferent nerves.
211. The seats of reason, intelligence, will, memory, and all of the higher emotions are found in the  
(a) cerebellum. \_\_\_\_\_  
(b) cerebrum.  
(c) angular gyrus.  
(d) pons.
212. All impressions passing between the brain and the spinal cord are conducted by the  
(a) cerebrum. \_\_\_\_\_  
(b) angular gyrus.  
(c) medulla oblongata.  
(d) cerebellum.
213. Reflex centers for regulating respiration, accelerating heart action, and maintaining vascular tone are found in the  
(a) cerebrum. \_\_\_\_\_  
(b) medulla oblongata.  
(c) spinal cord.  
(d) fissure of Rolando.
214. The olfactory nerve has for its function  
(a) movements of the eye. \_\_\_\_\_  
(b) facial expression.  
(c) sense of smell.  
(d) sense of hearing.
215. The outstanding physiological property of nerve fiber is its  
(a) elasticity. \_\_\_\_\_  
(b) conductivity.  
(c) contractibility.  
(d) regenerative ability.

216. When response to stimulation occurs without intervening consciousness it is termed

- (a) receptor activity.
  - (b) reflex action.
  - (c) lumbar action.
  - (d) sacral action.
- 

217. The corneal reflex is an example of the

- (a) complex reflex.
  - (b) spreading reflex.
  - (c) simple reflex.
  - (d) continuous reflex.
-

## ASSIGNMENT NO. 8

### BACTERIOLOGY I

Before you answer these questions study pages 372-373 and 899-904 in *Handbook of the Hospital Corps, U. S. Navy, 1939* edition.

#### INSTRUCTION TEST

Write on the line or lines to the right of each statement the word or words omitted from that statement.

218. The unit of measurement used in determining the size of microscopic bodies is the \_\_\_\_\_.
219. The bacteria which are not harmful to the body are called \_\_\_\_\_.
220. Bacteria which cause disease are called \_\_\_\_\_.
221. Bacteria which grow only in the presence of oxygen are called \_\_\_\_\_.
222. Bacteria which grow only in the absence of oxygen are called \_\_\_\_\_.
223. Fractional sterilization is employed to kill bacteria developing from \_\_\_\_\_.
224. Substances used to color bacteria are called \_\_\_\_\_.
225. Examination of serum from sores on the genitalia to detect *Treponema pallidum* is best done by the method known as \_\_\_\_\_.
226. A person who, although symptomless himself of the disease, harbors and disseminates the specific infectious agent of the disease is known as a \_\_\_\_\_.

Select the one best answer to each problem and write its letter on the line at the right.

227. Culture media for pathogenic organisms should

- (a) make the bacteria feel at home. \_\_\_\_\_
- (b) simulate conditions present in the body.
- (c) give bacteria exercise by allowing them to swim around.
- (d) slow down the growth of bacteria.

228. In the laboratory bacteria are grown on culture media. The basis of most media is

- (a) sugar, litmus milk, and starch. \_\_\_\_\_
- (b) potato.
- (c) bouillon or broth which is a solution of meat juice, salt, and peptone in water and having a definite degree of acidity.

229. Most bacteria of dental interest are grown at a constant temperature of

- (a) 90 deg. F. \_\_\_\_\_
- (b) 37.5 deg. F.
- (c) 98 deg. C.
- (d) 37.5 deg. C.

230. Bacteria reproduce by

- (a) transverse fission. \_\_\_\_\_
- (b) sporogeny.
- (c) somatogenesis.
- (d) spontaneous generation.

231. Pus, bacteria, blood, etc. thinly spread on a slide for examination under a microscope is called a

- (a) smear. \_\_\_\_\_
- (b) spread.
- (c) film.
- (d) slip.

232. Culture media must be kept tightly closed
- (a) to prevent evaporation. \_\_\_\_\_
  - (b) to keep bacteria from growing too fast.
  - (c) to prevent contamination from the air.
  - (d) to prevent infection of technicians.
233. The period between the time a person is first infected with a disease and the appearance of symptoms is known as the
- (a) incubation period. \_\_\_\_\_
  - (b) lag phase.
  - (c) latent period.
  - (d) immune phase.
234. Immunity present from birth is known as
- (a) passive immunity. \_\_\_\_\_
  - (b) inherent immunity.
  - (c) acquired immunity.
  - (d) specific immunity.
235. When antibodies are produced in one animal and the serum of that animal is injected into another to produce immunity it is known as
- (a) passive immunity. \_\_\_\_\_
  - (b) inherent immunity.
  - (c) general immunity.
  - (d) active immunity.
236. When the body is infected by disease, or where the causative organisms of a disease are injected into the body, substances are produced which combat that disease leading to cure and, in some cases, to the production of prolonged immunity to that disease. This type of immunity is known as
- (a) passive immunity. \_\_\_\_\_
  - (b) inherent immunity.
  - (c) active immunity.
  - (d) general immunity.



In the space at the right of each item in list B, print the letter of the one most closely related item in list A.

**List A**

**List B**

- |  |                                   |       |
|--|-----------------------------------|-------|
| 237. a. Passing of slide through a flame       | 1. Methylene blue, carbol fuchsin | _____ |
| b. Stains used to color bacteria               | 2. Smear                          | _____ |
| c. Instrument used in making a smear           | 3. Wire loop                      | _____ |
| d. Bacteria spread in a thin film on a slide   | 4. Fixing a smear                 | _____ |
| e. Organism stained violet using Gram's method | 5. Gram-positive organism.        | _____ |
| f. Acid fast organisms                         |                                   |       |

Bacteria are classified according to certain standards. From the items listed below select the five on which classification is based. List your answers in the spaces at the right.

- |  |          |
|--|----------|
| 238. a. Appearance of the colonies           | 1. _____ |
| b. Rate of multiplication                    | 2. _____ |
| c. Color when stained by appropriate methods | 3. _____ |
| d. Arrangement of the individual cells       | 4. _____ |
| e. Ability to produce chlorophyll            | 5. _____ |
| f. Ability to withstand boiling              |          |
| g. Shape of the individual cells             |          |
| h. Power of motion                           |          |
| i. Life expectancy                           |          |
| j. Ability to move by "Brownian movement"    |          |
| k. Ability to reproduce                      |          |

## ASSIGNMENT NO. 9

### EMERGENCY DENTAL TREATMENT

Before you answer these questions study pages 369-376 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

239. When a patient presents himself for emergency dental treatment it is first necessary to establish the diagnosis. The first thing you must do, therefore, is
- (a) call the dental officer. \_\_\_\_\_
  - (b) question the patient. \_\_\_\_\_
  - (c) set up the bracket table. \_\_\_\_\_
  - (d) examine the patient's mouth. \_\_\_\_\_
240. One of the most common causes of dental pain is
- (a) infection and/or inflammation of the tooth pulp. \_\_\_\_\_
  - (b) pulpal necrosis or abscess. \_\_\_\_\_
  - (c) jaw fracture. \_\_\_\_\_
  - (d) Vincent's infection. \_\_\_\_\_
241. In the case of dental abscess caused by death of the pulp in a carious tooth, sedative medication applied to the cavity usually
- (a) relieves the pain immediately. \_\_\_\_\_
  - (b) does little or no good. \_\_\_\_\_
  - (c) inhibits the formation of gases. \_\_\_\_\_
  - (d) encourages the formation of gases. \_\_\_\_\_
242. Slightly tender gums which bleed easily when the teeth are brushed lead to a diagnosis of
- (a) stomatitis. \_\_\_\_\_
  - (b) pyorrhea. \_\_\_\_\_
  - (c) trench mouth. \_\_\_\_\_
  - (d) gingivitis. \_\_\_\_\_

243. A patient has an aching tooth after loss or breakage of a filling; painful but not severe. Proper treatment includes

- (a) removal of decalcified dentin. \_\_\_\_\_
- (b) placing sedative dressing of zinc oxide and eugenol.
- (c) placing dressing of cotton pellet with dental glycerite.
- (d) sealing cavity with gutta percha.

244. Pericoronitis usually occurs in

- (a) third molar areas. \_\_\_\_\_
- (b) a "dry-socket."
- (c) recent extraction sockets.
- (d) erupted deciduous teeth.

245. The so-called "setting" of fractured jaws is best termed

- (a) conduction. \_\_\_\_\_
- (b) reduction.
- (c) induction.
- (d) production.

246. Rubbing the bone fragments together in a fractured jaw is both painful and ill-advised. This condition is called

- (a) abrasion. \_\_\_\_\_
- (b) attrition.
- (c) crepitus.
- (d) precipice.

247. Pericoronitis is very often

- (a) painful. \_\_\_\_\_
- (b) painless.
- (c) of no consequence.

Select the best answers to each problem and write their letters on the line at the right. Each problem has more than one correct answer.

248. The dental technician rendering any type of emergency dental treatment should advise the patient that the treatment given is of a temporary nature only.

He also should instruct patient

- (a) to return for further treatment. \_\_\_\_\_
- (b) to consult a dental officer at the earliest opportunity.
- (c) to take his turn on the waiting list.
- (d) to apply an aspirin tablet to area if pain persists.
- (e) to remain in bunk and use ice pack.

249. In the case of a pulp abscess or suppurating pulpitis the tooth should be

- (a) sealed with a sedative dressing. \_\_\_\_\_
- (b) allowed to remain open for drainage.
- (c) extracted.
- (d) cleansed of debris and soft dentin.
- (e) medicated with cotton pellet and dentalone.

250. A patient has fractured a corner of an upper central incisor. There is slight bleeding from the pulp and it is very painful. Your treatment should include

- (a) making a roentgenogram if an x-ray machine is available. \_\_\_\_\_
- (b) referring him to the dental officer.
- (c) applying celluloid cap of tin oxide and eugenol paste.
- (d) covering the tooth well with gauze and dentalone.
- (e) cauterizing the pulp and then leaving it open.

251. Treatment of "bleeding gums", when actual infection is not evident, is best accomplished by

- (a) applying dental astringent to gums. \_\_\_\_\_
- (b) prophylaxis.
- (c) massaging gums.
- (d) suggesting special tooth paste.
- (e) using mouth washes.

Select the one best answer to each problem and write its letter on the line at the right.

252. If pain seems to come from the teeth look for

- (a) a cavity. \_\_\_\_\_
- (b) gingivitis.
- (c) a dry-socket.
- (d) pericoronitis.

253. If a cavity exists where a patient complains of pain only when eating sweets and/or cold foods the tooth is probably involved with

- (a) simple caries. \_\_\_\_\_
- (b) abscess.
- (c) pericoronitis.
- (d) periodontitis.

254. When a carious tooth with an exposed pulp does not respond to vitality tests (heat, cold, electrical), the cavity should be

- (a) left open. \_\_\_\_\_
- (b) sealed with sedative dressing.
- (c) cauterized.
- (d) sterilized.



255. When an abscess is suspected at the tip of a root and there is swelling of the gum in this area, proper procedure is to
- (a) apply medicament.
  - (b) refer patient to dental officer immediately.
  - (c) incise and drain abscess.
  - (d) grind the occlusion.
256. In simple gingivitis the gums are
- (a) light pink.
  - (b) inflamed.
  - (c) ulcerated.
  - (d) necrotic.
257. Pain due to loss of a filling may often be relieved by
- (a) sedative dressing.
  - (b) relieving occlusal stresses.
  - (c) warm saline mouth washes.
  - (d) cold application.

Encircle the letter *T* if the statement is entirely true. If any part of the statement is false, encircle the letter *F*.

- |      |  |   |   |
|------|--|---|---|
| 258. | In emergency treatment for pain caused by dental caries, the soft decalcified dentin should be removed from the cavity only enough to allow for sedative medication. | T | F |
| 259. | When a patient complains of toothache which is severe and constant the cavity probably involves an exposure of the pulp.   | T | F |
| 260. | Enamel contains sensory nerves.  | T | F |
| 261. | The pulp chamber of a tooth is continuous with the root canal.   | T | F |
| 262. | The blood supply of a tooth is derived from both the vessels of the periodontal membrane and the apical bone.  | T | F |
| 263. | In pulpal abscesses the periodontal membrane is always inflamed.   | T | F |

264.	Toothache is most frequently caused by inflammation of the dental pulp.	T	F
265.	Decay progresses more rapidly in enamel than in dentin.	T	F
266.	Chisels and hatchets are preferred for the removal of dental decay.	T	F
267.	Dental engine and round burs are indicated for removing carious dentin.	T	F
268.	Spoon excavators may be used to cleave enamel.	T	F
269.	Cotton roll holders can be used only on the lower jaw.	T	F
270.	A tooth with an acute periapical abscess is tender to percussion.	T	F
271.	A draining abscess (when a fistula is present) is seldom painful.	T	F
272.	Sedative dressings for treatment of "dry-socket" should be packed tightly.	T	F
273.	The dental officer should be informed at all times of any dental emergency treatment performed by the dental technician.	T	F
274.	Gutta percha or temporary stopping is effective in relieving pain when placed in a cavity.	T	F
275.	It is often experienced that a patient may point to a perfectly sound tooth and state that it aches severely.	T	F
276.	In most cases a "gum boil" indicates the presence of a dead pulp or abscess in a nearby tooth.	T	F
277.	Vincent's infection is a self curing disease.	T	F
278.	Osteomyelitis of the jaw requires the immediate services of a dental officer.	T	F
279.	Stimulants should be avoided in cases of post-extraction hemorrhage.	T	F
280.	In periapical abscesses the periodontal membrane is often inflamed.	T	F

## ASSIGNMENT NO. 10

### DENTAL CHARTING

Before you answer these questions study pages 18-31 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Fill in the blank space at the right with the name of the tooth surface designated by the following phrases:

281. (1) Toward the median line \_\_\_\_\_  
(2) Away from the median line \_\_\_\_\_  
(3) Toward the tongue \_\_\_\_\_  
(4) Toward the lips \_\_\_\_\_  
(5) Toward the cheeks \_\_\_\_\_  
(6) The biting edge (anterior teeth) \_\_\_\_\_  
(7) The chewing surface (posterior teeth) \_\_\_\_\_

To the right of each item give the number of the tooth as listed according to Navy classification.

282. (1) Maxillary right central incisor \_\_\_\_\_  
(2) Maxillary right first bicuspid \_\_\_\_\_  
(3) Maxillary left lateral incisor \_\_\_\_\_  
(4) Maxillary right second molar \_\_\_\_\_  
(5) Maxillary left first bicuspid \_\_\_\_\_  
(6) Mandibular right third molar \_\_\_\_\_  
(7) Maxillary right lateral incisor \_\_\_\_\_  
(8) Mandibular right first molar \_\_\_\_\_  
(9) Maxillary left first molar \_\_\_\_\_  
(10) Maxillary right first molar \_\_\_\_\_  
(11) Mandibular right first bicuspid \_\_\_\_\_  
(12) Maxillary left third molar \_\_\_\_\_  
(13) Mandibular left central incisor \_\_\_\_\_  
(14) Mandibular left second molar \_\_\_\_\_  
(15) Mandibular right cuspid \_\_\_\_\_  
(16) Mandibular left first bicuspid \_\_\_\_\_  
(17) Maxillary left second bicuspid \_\_\_\_\_  
(18) Maxillary left cuspid \_\_\_\_\_

- (19) Maxillary right second bicuspid \_\_\_\_\_
- (20) Mandibular right lateral incisor \_\_\_\_\_
- (21) Mandibular left cuspid \_\_\_\_\_
- (22) Maxillary right third molar \_\_\_\_\_
- (23) Maxillary left second molar \_\_\_\_\_
- (24) Mandibular right second bicuspid \_\_\_\_\_
- (25) Maxillary right cuspid \_\_\_\_\_
- (26) Mandibular left third molar \_\_\_\_\_
- (27) Mandibular right second molar \_\_\_\_\_
- (28) Maxillary left central incisor \_\_\_\_\_
- (29) Mandibular right central incisor \_\_\_\_\_
- (30) Mandibular left second bicuspid \_\_\_\_\_
- (31) Mandibular left first molar \_\_\_\_\_
- (32) Mandibular left lateral incisor \_\_\_\_\_

**Give the correct abbreviation for the following tooth surfaces:**

283. (1) Lingual \_\_\_\_\_ (5) Labial \_\_\_\_\_
- (2) Occlusal \_\_\_\_\_ (6) Incisal \_\_\_\_\_
- (3) Buccal \_\_\_\_\_ (7) Distal \_\_\_\_\_
- (4) Mesial \_\_\_\_\_

**Fill in the blank space with the word describing the condition indicated by the following markings which appear in red ink on the upper chart of the Dental Record (NavMed-H4):**

284. (1) An "X" through the number designating a tooth. \_\_\_\_\_
- (2) Two crossing lines from maxillary right third molar to mandibular left third molar and maxillary left third molar to mandibular right third molar. \_\_\_\_\_
- (3) Restoration outlined and blocked in solidly. \_\_\_\_\_
- (4) Restoration outlined only. \_\_\_\_\_
- (5) Restoration outlined and inscribed with horizontal lines. \_\_\_\_\_
- (6) Aspects of two or more adjacent teeth outlined and inscribed with diagonal lines. \_\_\_\_\_

Fill in the blank space with condition indicated by the following markings in black ink on the upper chart of the Dental Record (NavMed-H4):

285. (1) Area on a tooth surface outlined and blocked in solidly. \_\_\_\_\_
- (2) Area on a tooth surface outlined only. \_\_\_\_\_
- (3) Oval around all aspects of a tooth. \_\_\_\_\_
- (4) 1/16 inch circle above the root of a maxillary tooth. \_\_\_\_\_
- (5) 1/16 inch circle above root of maxillary tooth with straight line leading to root of tooth. \_\_\_\_\_
- (6) Two parallel lines drawn vertically through all aspects of a tooth. \_\_\_\_\_

Write on the line or lines to the right of each statement the word or words omitted from that statement.

286. The form NavMed-H4 is also referred to as the Dental \_\_\_\_\_. \_\_\_\_\_
287. Abnormal conditions observed during the original examination, which cannot be described by the standard dental markings, are recorded on the form Nav Med H-4 under the space headed \_\_\_\_\_. \_\_\_\_\_

Select the one best answer to each problem and write its number on the line at the right of the item.

288. Dental restorations performed in the naval service are drawn in black on the NavMed-H4
- (a) at top of page. \_\_\_\_\_
- (b) on upper chart.
- (c) on lower chart.
- (d) under remarks.



289. Findings of the original examination are drawn in black on the front of the NavMed-H4
- (a) at top of page. \_\_\_\_\_
  - (b) on upper chart.
  - (c) on lower chart.
  - (d) under remarks.
290. Responsibility for accuracy of the Nav-Med-H4 rests with the
- (a) dental technician. \_\_\_\_\_
  - (b) dental officer.
  - (c) medical officer.
  - (d) personnel officer.
291. Removable prosthetic appliances observed upon original examination should be
- (a) carefully drawn on the upper chart. \_\_\_\_\_
  - (b) noted by an entry on the back of the NavMed-H4.
  - (c) described briefly under "Remarks."
  - (d) not entered on the NavMed-H4.
292. A series of treatments not producing graphic changes on the dental chart
- (a) should have an entry on the back of the NavMed-H4 for each treatment. \_\_\_\_\_
  - (b) should denote only the initial and final treatment dates on the back of the NavMed-H4.
  - (c) need not be recorded on the Nav-Med-H4.
  - (d) should be entered on the lower chart.
293. The NavMed-H4 is made out in
- (a) original only. \_\_\_\_\_
  - (b) duplicate.
  - (c) triplicate.
  - (d) quadruplicate.

294. Silicate restorations placed while in the naval service should be entered on the back of the NavMed-H4 and
- (a) outlined in red on the lower chart.
  - (b) outlined in black on the lower chart.
  - (c) outlined and blocked-in, in black, on the lower chart.
  - (d) outlined and blocked-in, in red, on the lower chart.
295. An apicoectomy performed in the naval service is drawn as
- (a) a small triangle in red ink on upper chart.
  - (b) a small triangle in black ink on the upper chart.
  - (c) a small triangle in black ink on the lower chart.
  - (d) a small triangle in red ink on the lower chart.
296. Dentures supplied in the naval service are designated by
- (a) entering brief description of appliance under "Remarks" on the front of the NavMed-H4.
  - (b) entering brief description on the back of NavMed-H4.
  - (c) reproducing the appliance on the lower chart and a brief description on the back of the NavMed-H4.
  - (d) making no entry on the NavMed-H4.

## ASSIGNMENT NO. 11

### DENTAL AMALGAM

Before you answer these questions study pages 261-286 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Write on the lines to the right of each statement the word or words omitted from that statement.

297. The combination of two or more metals, exclusive of mercury, is called an \_\_\_\_\_. \_\_\_\_\_
298. The combination of any metal or alloy with mercury is called an \_\_\_\_\_. \_\_\_\_\_
299. An instrument used for carrying small masses of freshly mixed amalgam to place in a prepared cavity is called a \_\_\_\_\_  
\_\_\_\_\_. \_\_\_\_\_
300. An instrument used to carve a freshly placed amalgam in order to restore normal tooth form is known as a \_\_\_\_\_. \_\_\_\_\_
301. A device used to mix or triturate an alloy with mercury to produce an amalgam is called an \_\_\_\_\_. \_\_\_\_\_
302. An instrument used to condense or pack amalgam when inserting an amalgam restoration is called a \_\_\_\_\_. \_\_\_\_\_
303. Heating an alloy in an oven for a prescribed period of time to adjust its crystalline structure to a uniform arrangement is known as \_\_\_\_\_. \_\_\_\_\_
304. The strength of a substance expressed in terms of the pressure necessary to crush a unit of the substance (usually computed in pounds per square inch) is called \_\_\_\_\_. \_\_\_\_\_
305. The lateral spreading or crawling of amalgam when subjected to stress is called \_\_\_\_\_. \_\_\_\_\_

306. A short strip of thin steel or other metal, not affected by mercury, used in forming a wall about a cavity into which amalgam is packed is called a \_\_\_\_\_.
307. An instrument which holds and tightens a matrix band around a tooth is called a \_\_\_\_\_.
308. A heavy metal, which is a fluid at ordinary temperatures and has a characteristic silvery appearance, used to produce amalgams with a metal or an alloy is known as \_\_\_\_\_.
309. A strong bowl in which substances are rubbed together or triturated by means of a pestle is known as a \_\_\_\_\_.
310. The process of rubbing together a mass of freshly mixed amalgam in a piece of rubber dam (or in a linen squeeze cloth) for the purpose of obtaining a more homogeneous mixture is known as \_\_\_\_\_.
311. An instrument designed for mixing substances in a mortar is known as a \_\_\_\_\_.
312. An amalgam proportioner or dispenser is a mechanical device used to obtain the correct proportion of \_\_\_\_\_ and \_\_\_\_\_.
313. The time required for the crystallization or hardening of plastic amalgam is known as \_\_\_\_\_ time.
314. A small piece of cloth used to express excess mercury from freshly mixed amalgam is called a \_\_\_\_\_.
315. The process of producing a plastic amalgam, suitable for filling by rubbing alloy and mercury together in a mortar or other device is known as \_\_\_\_\_.
316. An instrument used to burnish freshly placed amalgam is called an \_\_\_\_\_.

317. A glass mortar and pestle, a pressure regulated metal mortar and pestle, or a mechanical triturator may be used to mix\_\_\_\_\_.

318. The process of separating a mass of amalgam into subdivisions is known as \_\_\_\_\_.



## ASSIGNMENT NO. 12

### DENTAL ASSISTING

Before answering these questions study pages 5-14 and 322-344, in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

In the space at the right of each item in list B, print the letter of the one most closely related item in list A.

319. Four procedures which should be accomplished before the patient is seated in the dental chair are

#### A

#### B

- |  |           |
|--|-----------|
| (a) supply clean bracket table cover       | (1) _____ |
| (b) adjust chair headrest                  | (2) _____ |
| (c) lay out instruments                    | (3) _____ |
| (d) switch on unit                         | (4) _____ |
| (e) lower dental chair                     |           |
| (f) place clean handpiece on engine arm    |           |
| (g) place clean headrest cover             |           |
| (h) place clean cup in the unit cup holder |           |

320. Four procedures which should be accomplished immediately after the patient is seated in the dental chair are

#### A

#### B

- |                                   |           |
|-----------------------------------|-----------|
| (a) adjust headrest               | (1) _____ |
| (b) adjust light                  | (2) _____ |
| (c) prepare filling material      | (3) _____ |
| (d) place clean towel on patient  | (4) _____ |
| (e) lay out examining instruments |           |
| (f) fill spray bottles            |           |
| (g) place clean headrest cover    |           |
| (h) scrub cuspidor                |           |

321. Match each item in list A with the operation in list B to which it applies.

A	B	
(a) gutta percha	(1) packing amalgam	_____
(b) retainer	(2) applying matrix	_____
(c) cement base	(3) removing decay	_____
(d) mortar and pestle	(4) sterilizing cavity	_____
(e) scaler	(5) insulating pulp	_____
(f) procaine	(6) sedative base	_____
(g) phenol	(7) amalgamation	_____
(h) articulating paper	(8) silicate cement	_____
(i) condenser	(9) oral prophylaxis	_____
(j) zinc oxide paste	(10) regional anesthesia	_____
(k) amalgam carver		
(l) excavator		
(m) celluloid strip		

Select the one best answer to each problem and write its letter in the line at the right.

322. After using saliva ejector tubes they should be flushed out with  
 (a) sodium carbonate solution.  
 (b) dilute acid solution.  
 (c) clean water.  
 (d) carbon tetrachloride. \_\_\_\_\_
323. Dental handpieces should be cleaned  
 (a) after each patient.  
 (b) daily.  
 (c) weekly.  
 (d) immediately before inspections. \_\_\_\_\_
324. Dental equipment (chair, cabinet and unit) should be cleaned and polished with  
 (a) water.  
 (b) alcohol.  
 (c) furniture polish.  
 (d) liquid petrolatum. \_\_\_\_\_

325. The correct boiling time for sterilizing instruments is
- (a) 5 minutes.
  - (b) 10 minutes.
  - (c) 30 minutes.
- 
326. After using instruments they should be
- (a) sterilized immediately.
  - (b) washed first with soap and water.
  - (c) allowed to dry before sterilization.
  - (d) returned to the dental cabinet.
- 
327. The proper length of time for a dental appointment is
- (a) one hour.
  - (b) one-half hour.
  - (c) fifty minutes.
  - (d) as directed by the dental officer.
- 
328. The name, rank or rate, and station of each patient should be entered in the appointment book
- (a) after the day's treatment is completed.
  - (b) at the end of each day.
  - (c) after all treatment is completed.
  - (d) when the appointment is made.
- 
329. Statistics for the NavMed-K are normally compiled from
- (a) the dental record (NavMed-H4).
  - (b) the appointment book.
  - (c) the NavMed-R.
  - (d) the NavMed-Y.
- 
330. When a patient suffering pain of dental origin reports for treatment the dental technician should
- (a) advise the patient to return at sick call.
  - (b) place the patient in the dental chair immediately.
  - (c) advise the dental officer immediately.
-

331. Entries are made in the appointment book
- (a) in black ink.
  - (b) in indelible pencil.
  - (c) in red ink.
  - (d) in pencil.
- 
332. As the patients arrive at dental sick call, the technician should
- (a) take patients in order of arrival.
  - (b) take emergency cases first.
  - (c) take patients in order of their rank.
  - (d) take name, rate or rank, and nature of ailment and report to the dental officer.
- 
333. When a patient with a routine dental appointment arrives while another patient is being treated, the technician should do *two* of the following:
- (a) direct him to the waiting room.
  - (b) inform the dental officer.
  - (c) give the arriving patient another appointment.
  - (d) dismiss the patient being treated immediately.
-

## ASSIGNMENT 13

### ANATOMY AND PHYSIOLOGY

#### DESCRIPTION OF THE HUMAN DENTITION

Before you answer these questions study pages 97-124 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

334. The human dentition is classified as  
(a) homodont.  
(b) monophyodont.  
(c) diphyodont.  
(d) polyphyodont. \_\_\_\_\_
335. The first teeth to erupt are known as  
(a) succedaneous.  
(b) deciduous  
(c) herbivorous.  
(d) carnivorous. \_\_\_\_\_
336. The upper arch of the dentition is known as the  
(a) enamel bud.  
(b) mandible.  
(c) maxillae.  
(d) alveolar arch. \_\_\_\_\_
337. The main function of incisor teeth is  
(a) cutting.  
(b) prehensibility.  
(c) tearing.  
(d) space maintainers. \_\_\_\_\_
338. Cuspids are also termed  
(a) canine teeth.  
(b) Hutchinson teeth.  
(c) deciduous teeth.  
(d) herbivorous teeth. \_\_\_\_\_

339. Under normal conditions each adult arch contains
- (a) four molars.
  - (b) six molars.
  - (c) eight molars.
  - (d) ten molars.
- 
340. Bicuspid possess
- (a) two cusps.
  - (b) three cusps.
  - (c) four cusps.
  - (d) five cusps.
- 
341. The dental pulp is located in the
- (a) bands of Retzius.
  - (b) enamel.
  - (c) innermost portion of the tooth.
  - (d) alveolus.
- 
342. The mesial surface of a tooth faces toward the
- (a) median line.
  - (b) axial line.
  - (c) long axis of the tooth.
  - (d) cingulum.
- 
343. The labial surface of an anterior tooth faces toward the
- (a) axial line.
  - (b) median line.
  - (c) tongue.
  - (d) lips.
- 
344. The buccal surface of a posterior tooth faces toward the
- (a) lips.
  - (b) cheeks.
  - (c) median line.
  - (d) axial line.
- 
345. Occlusal surfaces of teeth are the
- (a) chewing surfaces of the posterior teeth.
  - (b) incisal edges of the anterior teeth.
  - (c) cutting edges of the canine teeth.
  - (d) lingual surfaces of the anterior teeth.
-



346. The junction of two surfaces of a tooth is termed
- (a) a line angle.
  - (b) the cuspal eminence.
  - (c) the transverse ridge.
  - (d) the developmental groove.
- 
347. The junction of three adjoining surfaces of a tooth is termed a
- (a) transverse ridge.
  - (b) triangular ridge.
  - (c) point angle.
  - (d) fossa.
- 
348. The junction of two triangular ridges of a tooth forms
- (a) a fossa.
  - (b) a sulcus.
  - (c) a transverse ridge.
  - (d) the developmental groove.
- 
349. A fissure in the enamel is the result of
- (a) the imperfect fusion of the formative parts.
  - (b) the junction of supplemental grooves.
  - (c) a lack of mouth hygiene.
  - (d) two mesial surfaces in contact.
- 
350. The maxillary central incisors are
- (a) two in number.
  - (b) four in number.
  - (c) six in number.
  - (d) eight in number.
- 
351. Each mammelon of an anterior tooth represents a
- (a) labial lobe.
  - (b) cingulum.
  - (c) ameloblast.
  - (d) marginal ridge.
-

352. The incisal edge of an upper central incisor is beveled at the expense of the  
(a) mesial surface.  
(b) distal surface.  
(c) height of contour.  
(d) lingual surface. 

---
353. The roots of permanent central incisors are  
(a) bifurcated.  
(b) multiple.  
(c) single. 

---
354. The second tooth from the median line in the upper arch is the  
(a) second bicuspid.  
(b) second molar.  
(c) lateral incisor.  
(d) cuspid. 

---
355. The formation of a peg shaped lateral incisor takes place when  
(a) the ameloblast is destroyed.  
(b) the mesial and distal lobes fail to develop.  
(c) all the enamel rods are on the lingual surface.  
(d) the central incisor fails to erupt. 

---
356. The cuspids are located at the  
(a) median line.  
(b) retro-molar area.  
(c) angle of the mouth.  
(d) naso-palatine foramen. 

---
357. The tooth with the longest root is the  
(a) upper central incisor.  
(b) lower wisdom tooth.  
(c) upper cuspid.  
(d) upper bicuspid. 

---
358. The third tooth from the median line is  
(a) the third molar.  
(b) the first bicuspid.  
(c) the second bicuspid.  
(d) the cuspid. 

---

359. The contact point of the distal surface of the upper cuspid is
- (a) located at the incisal edge.
  - (b) found at the gingival third.
  - (c) found in the incisal one-third.
  - (d) not present.
- 
360. On the buccal cusp of the upper first bicuspid there is
- (a) an oval ridge.
  - (b) a semilunar ridge.
  - (c) a triangular ridge.
  - (d) an area which represents a lack of calcification.
- 
361. Both the lingual and buccal surfaces of the upper first bicuspid are
- (a) convex.
  - (b) semi-lunar.
  - (c) straight.
  - (d) concave.
- 
362. The point of greatest convexity of the buccal surface of the upper first bicuspid is located at the
- (a) occlusal surface.
  - (b) junction of the occlusal and middle third.
  - (c) junction of the middle and gingival third.
  - (d) gingival line.
- 
363. The upper first bicuspid has bifurcated roots in
- (a) 15% of cases.
  - (b) 30% of cases.
  - (c) 50% of cases.
  - (d) 100% of cases.
- 
364. The root of the upper second bicuspid is
- (a) generally bifurcated.
  - (b) generally three rooted.
  - (c) similar to the upper central incisor.
  - (d) seldom bifurcated.
-

365. The smallest of all the bicuspid is the  
(a) upper first bicuspid.  
(b) the upper second bicuspid.  
(c) the lower first bicuspid.  
(d) lower second bicuspid.
366. The largest tooth in the mouth is the  
(a) lower wisdom tooth.  
(b) upper second bicuspid.  
(c) maxillary first molar.  
(d) mandibular first molar.
367. The occlusal surface of the upper first molar is  
(a) trapezoidal in shape.  
(b) quadrilateral in shape.  
(c) rhomboidal in shape.  
(d) rectangular in shape.
368. A Carabelli Cusp is sometimes found on the  
(a) central incisor.  
(b) lower first molar.  
(c) lower third molar.  
(d) upper first molar.
369. The largest root of the upper first molar is the  
(a) mesio-buccal.  
(b) disto-buccal.  
(c) mesio-lingual.  
(d) lingual.
370. The upper second molar differs from the upper first molar in that it  
(a) is smaller.  
(b) is four rooted.  
(c) has six cusps.  
(d) has two cusps of Carabelli.
371. The mandibular second molar is also known as the  
(a) key to occlusion.  
(b) six year molar.  
(c) twelve year molar.  
(d) eight year molar.

372. From the median line the maxillary second molar is the  
(a) fifth tooth.  
(b) sixth tooth.  
(c) seventh tooth.  
(d) ninth tooth. \_\_\_\_\_
373. The term "wisdom tooth" is applied to  
(a) lower central incisors.  
(b) upper central incisors.  
(c) upper first molar.  
(d) third molars. \_\_\_\_\_
374. The teeth of early childhood are known as  
(a) succedaneous teeth.  
(b) homodont teeth.  
(c) deciduous teeth.  
(d) polyphyodont teeth. \_\_\_\_\_
375. The first deciduous tooth makes its appearance at approximately  
(a) six months.  
(b) nine months.  
(c) eleven months.  
(d) fourteen months. \_\_\_\_\_
376. The complete deciduous dentition consists of  
(a) fourteen teeth.  
(b) sixteen teeth.  
(c) twenty teeth.  
(d) twenty-four teeth. \_\_\_\_\_
377. The permanent central incisor generally erupts during the  
(a) 6th - 7th year.  
(b) 7th - 8th year.  
(c) 8th - 9th year.  
(d) 9th - 10th year. \_\_\_\_\_
378. The cuspid tooth generally erupts during  
(a) 7th - 8th year.  
(b) 9th - 10th year.  
(c) 12th - 13th year.  
(d) 14th - 15th year. \_\_\_\_\_

379. The roots of the deciduous molars partially surround the
- (a) crowns of the permanent incisors.
  - (b) the developing bicuspid crowns.
  - (c) crowns of the first permanent molar.
  - (d) crowns of the third molars.
380. The age of eruption of the first molars usually is
- (a) 5th year.
  - (b) 6th year.
  - (c) 8th year.
  - (d) 9th year.
381. The age of eruption of the third molars usually is
- (a) 12 - 14 years.
  - (b) 14 - 15 years.
  - (c) 15 - 16 years.
  - (d) 17 - 20 years.
382. The upper first bicuspid usually appears during the
- (a) 9th - 10th year.
  - (b) 10th - 11th year.
  - (c) 12th - 13th year.
  - (d) 13th - 14th year.



## ASSIGNMENT NO. 14

### DENTAL HISTOLOGY

Before you answer these questions study pages 125-163 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

383. The crown portion of the tooth is covered with  
(a) lamina dura.  
(b) cementum.  
(c) enamel.  
(d) cuticle. \_\_\_\_\_
384. The greatest bulk of the tooth is made up of  
(a) pulp.  
(b) dentin.  
(c) enamel rods.  
(d) cementum. \_\_\_\_\_
385. The thin layer of bone-like material covering the root is  
(a) cementum.  
(b) lamina dura.  
(c) enamel.  
(d) Nasmyth's membrane. \_\_\_\_\_
386. The cavity occupying the central portion of the tooth is filled with  
(a) squamous epithelial tissue.  
(b) pulp tissue.  
(c) dentin.  
(d) striated tissue. \_\_\_\_\_
387. Between the root and the alveolar bone is found the  
(a) dental periosteum.  
(b) primary cuticle.  
(c) external alveolar plate.  
(d) granular layer of Tomes. \_\_\_\_\_

388. The soft tissue covering the alveolar process and attached to the tooth is known as the
- (a) lamina dura.
  - (b) alveolar crest.
  - (c) gingivae.
  - (d) secondary cuticle.
389. The epithelial membrane which covers the tooth upon its eruption is termed
- (a) mucous patch.
  - (b) peridental membrane.
  - (c) layer of Weil.
  - (d) enamel cuticle.
390. Nasmyth's membrane on the occlusal and incisal surfaces of the teeth is worn away by
- (a) mastication.
  - (b) the use of toothpicks.
  - (c) the use of cigarettes.
  - (d) dental floss.
391. The hardest tissue in the body is
- (a) osseous tissue
  - (b) lymphoid tissue.
  - (c) enamel tissue.
  - (d) endochondral bone.
392. The enamel of the crown is hardest at the
- (a) sulcus portion.
  - (b) cervical portion.
  - (c) cusp portion.
  - (d) buccal portion.
393. The organic content of the enamel is
- (a) 10%.
  - (b) 30%.
  - (c) 50%.
  - (d) 90%.
394. The inorganic content of the enamel is
- (a) 10%.
  - (b) 20%.
  - (c) 50%.
  - (d) 90%.

395. Green stain formation is aided by the presence of
- (a) epithelial attachment.
  - (b) paradental lamellae.
  - (c) enamel cuticle.
  - (d) odontoblastic layer.
- 
396. Rods, rod sheaths, and interprismatic substance make up the
- (a) dentin.
  - (b) lamina dura.
  - (c) enamel.
  - (d) root.
- 
397. The inorganic content of dentin is
- (a) 15%.
  - (b) 45%.
  - (c) 70%.
  - (d) 85%.
- 
398. The organic content of the dentin is
- (a) 15%.
  - (b) 30%.
  - (c) 65%.
  - (d) 90%.
- 
399. The color of dentin is
- (a) pale pink.
  - (b) light yellow.
  - (c) grey-white.
  - (d) pale orange.
- 
400. The diameter of dentinal tubules varies from
- (a) 2 – 4 microns.
  - (b) 5 – 7 microns.
  - (c) 8 – 9 microns.
  - (d) 10 – 12 microns.
- 
401. Secondary dentin is deposited on the
- (a) dentino-enamel junction.
  - (b) entire pulpal surface of the dentine.
  - (c) within the horns of the pulp.
  - (d) line of Schreger.
-

402. In scale of hardness of tooth structure, cementum ranks \_\_\_\_\_
- (a) first.
  - (b) second.
  - (c) third.
  - (d) fourth.
403. The inorganic content of the cementum is \_\_\_\_\_
- (a) 20%.
  - (b) 55%.
  - (c) 75%.
  - (d) 92%.
404. The organic content of the cementum is \_\_\_\_\_
- (a) 15%.
  - (b) 25%.
  - (c) 45%.
  - (d) 65%.
405. Tooth development is termed \_\_\_\_\_
- (a) biogenesis.
  - (b) odontogenesis.
  - (c) autolysis.
  - (d) hyperemia.
406. Tomes dentinal fibers are projections of the \_\_\_\_\_
- (a) lamina dura.
  - (b) osteocyte.
  - (c) cementoblasts.
  - (d) odontoblasts.

## ASSIGNMENT NO. 15

### BACTERIOLOGY II

Before you answer these questions study pages 165-174 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

407. The science dealing with the study of minute organisms found in the mouth is

(a) oral histology.  
(b) oral sepsis.  
(c) oral bacteriology.  
(d) oral microbes.

408. The shape of microorganisms that are classified as cocci is

(a) round.  
(b) square.  
(c) oblong.  
(d) semicircle.

409. The shape of microorganisms that are classified as bacilli is

(a) circular.  
(b) triangular.  
(c) rod shaped.  
(d) threadlike.

410. The shape of microorganisms that are classified as spirochetes is

(a) round or oval.  
(b) wavy or threadlike.  
(c) square or oblong.  
(d) spherical or crescent.

411. The cocci are divided into several groups according to their

(a) size.  
(b) arrangement.  
(c) color.  
(d) location.

412. Cocci that are arranged in chains are known as
- (a) streptococci.
  - (b) staphylococci.
  - (c) diplococci.
  - (d) tetracocci.
- 
413. Cocci that are arranged in pairs are known as
- (a) tetracocci.
  - (b) staphylococci.
  - (c) diplococci.
  - (d) streptococci.
- 
414. Cocci that are arranged in clumplike formations are known as
- (a) diplococci.
  - (b) tetracocci.
  - (c) streptococci.
  - (d) staphylococci.
- 
415. *Streptococcus hemolyticus* may be responsible for
- (a) pneumonia.
  - (b) gonorrhea.
  - (c) septicemia.
  - (d) tuberculosis.
- 
416. *Streptococcus viridans* is frequently found in
- (a) apical abscesses of teeth.
  - (b) sputum from tubercular patients.
  - (c) Vincent's infection.
  - (d) gingivitis.
- 
417. *Staphylococcus aureus* and *Staphylococcus albus* are
- (a) gonorrhea producing organisms.
  - (b) pus producing organisms.
  - (c) gingivitis producing organisms.
  - (d) pneumonia producing organisms.
-



418. The bacillus associated with Vincent's infection is
- (a) *Bacillus fusiformis*.
  - (b) *Lactobacillus acidophilus*.
  - (c) *Leptotrichia buccalis*.
  - (d) *Bacillus tuberculi*.
- 
419. The *Leptotrichia buccalis*, which is frequently found in the oral cavity, is
- (a) the cause of ulcero-membranous gingivitis.
  - (b) the cause of aphthous stomatitis.
  - (c) the cause of dental caries.
  - (d) non-pathogenic.
- 
420. *Spirillum*, *Borrelia*, and *Treponema* are types of
- (a) Vincent's organisms.
  - (b) spirochetes.
  - (c) fungi.
  - (d) bacilli.
- 
421. Spirochetes are usually found in
- (a) pairs.
  - (b) chains.
  - (c) indefinite pattern.
  - (d) definite groups.
- 
422. The *Treponema pallidum* is the causative organism of
- (a) Vincent's infection.
  - (b) periodontoclasia.
  - (c) syphilis.
  - (d) gingivitis.
- 
423. The organisms sometimes found in the mouth, which stretch in long threads or cilia and which are sometimes branched or are in chains, are classified as
- (a) bacilli.
  - (b) spirilli.
  - (c) cocci.
  - (d) fungi.
-

424. The organism which causes lumpy jaw is  
(a) Blastomycetes.  
(b) Actinomyces bovis.  
(c) Monilia albicans.  
(d) Lactobacillus acidophilus. \_\_\_\_\_
425. The organism which causes thrush of the oral mucosa is  
(a) Actinomyces bovis.  
(b) Monilia albicans.  
(c) Blastomycetes.  
(d) Staphylococcus albus. \_\_\_\_\_
426. A smear from an ulcer of the oral mucosa will usually show  
(a) only staphylococci.  
(b) only streptococci.  
(c) many forms of organisms.  
(d) only spirochetes. \_\_\_\_\_
427. Bacterial smears should be used for the determination of oral disease  
(a) instead of visual examinations.  
(b) to substantiate clinical evidence.  
(c) as a substitute for clinical examinations.  
(d) when in a hurry. \_\_\_\_\_
428. The two most important means of killing bacteria are  
(a) heat and germicides.  
(b) phenol and alcohol.  
(c) soap and water.  
(d) antiseptics and bacteriostatic agents. \_\_\_\_\_
429. It has been estimated that one organism under favorable circumstances could give rise in 24 hours to  
(a) 100 others.  
(b) 1000 others.  
(c) 1,000,000 others.  
(d) 1,000,000,000 others. \_\_\_\_\_

430. The multiplication of oral bacteria is favored by
- (a) hard foods.
  - (b) increased resistance of oral tissues.
  - (c) lowered resistance of oral tissues.
  - (d) increased saliva.
- 
431. Bacteria which can live in the absence of oxygen are called
- (a) aerobes.
  - (b) obligate aerobes.
  - (c) anerobes.
  - (d) strict aerobes.
- 
432. Bacteria which require oxygen are called
- (a) aerobes.
  - (b) *Treponema pallidum*.
  - (c) anerobes.
  - (d) *Fusiformis dentium*.
- 
433. Facultative anerobes are those organisms which have the power to live
- (a) only in the presence of oxygen.
  - (b) only in the absence of oxygen.
  - (c) in either the presence or absence of oxygen.
  - (d) in either the presence or absence of phenol.
- 
434. The organisms associated with Vincent's infection live more favorably
- (a) on occlusal surfaces of teeth.
  - (b) on the tongue.
  - (c) on the crests of the gingivae.
  - (d) in gingival crevices packed with debris.
- 
435. In order to multiply, bacteria in general must have
- (a) incubation, agar media, and air.
  - (b) light, agar, and glucose.
  - (c) moisture, warmth, and food.
  - (d) dryness, mucous membrane, and alkaline media.
-

436. In bacteriological laboratories, substances such as glucose, nutrient agar, and blood agar are called
- (a) solutions.
  - (b) culture media.
  - (c) slants.
  - (d) plates.
- 
437. The relative infectiousness of a micro-organism determines its
- (a) shape.
  - (b) host.
  - (c) mobility.
  - (d) virulence.
- 
438. The total defensive mechanism possessed by animals against bacteria is known as
- (a) antibodies.
  - (b) white blood cells.
  - (c) resistance.
  - (d) agglutinins.
- 
439. The substances in body fluids, which cause various changes to take place in bacteria to prevent their multiplication and cause them to be precipitated or clumped, are called
- (a) antibodies.
  - (b) antigens.
  - (c) red blood cells.
  - (d) neutrophiles.
- 
440. When antibodies are produced, to destroy or render harmless bacteria which cause a certain disease, a person is protected from further attack by the same organisms. A person so protected is said to be
- (a) susceptible to the disease.
  - (b) immune to the disease.
  - (c) less resistant to the disease.
  - (d) exposed to the disease.
-

441. In the continuous battle between bacteria and man, disease is caused when the
- (a) body resistance is low and the organism virulence is high.
  - (b) body resistance is high and the organism virulence is low.
  - (c) body resistance is equal to the organism virulence.
- 
442. Accumulations of dental calculus, which act as a source of irritation to the gingivae, lower tissue resistance and result in
- (a) decreased number of bacteria.
  - (b) increased number of bacteria.
  - (c) unchanged number of bacteria.
  - (d) elimination of microorganisms.
- 
443. The property of epithelium which prohibits bacteria from lodging and multiplying on the epithelial surface is known as
- (a) asepsis.
  - (b) germicidal.
  - (c) autolysis.
  - (d) autosterilization.
- 
444. Dental instruments used for routine operative procedures should be washed and sterilized
- (a) at the end of the day.
  - (b) following their use on a patient.
  - (c) every morning before clinic hours.
  - (d) the day following their use.
- 
445. The material for a gingival smear should be taken from the
- (a) most irritated area of the gingivae.
  - (b) least irritated area of the gingivae.
  - (c) most keratinized area of the gingivae.
  - (d) least keratinized area of the gingivae.
-

446. All instruments and materials for use in oral surgical and root canal procedures should be
- (a) sterile.
  - (b) clean.
  - (c) washed.
447. When making an oral smear for a microscopic examination, the slide, with smear side up, should be passed through the flame for the purpose of
- (a) removing the cleaning solution.
  - (b) killing the bacteria.
  - (c) fixing the bacteria so they will not wash off.
  - (d) removing debris from the smear.
448. Oral smears are ordinarily stained with
- (a) gentian violet and crystal violet.
  - (b) carbo-fuchsin and methylene blue.
  - (c) brilliant green and acriflavine.
  - (d) methylrosaniline and silver nitrate.
449. When a cover glass is used, it is fixed to the slide with
- (a) balsam or Clearite.
  - (b) water or peroxide.
  - (c) mucin or glue.
  - (d) oil or petrolatum.
450. A cover glass is placed on a slide for the purpose of
- (a) protecting it from the objectives.
  - (b) making it easier to handle.
  - (c) preserving the slide with the smear.
  - (d) increasing the bulk of the slide.
451. Root canal smears and cultures are taken to
- (a) isolate specific organisms.
  - (b) insure that the canal is sterile before it is filled.
  - (c) determine if the canal is dry.
  - (d) find out which bacteria remain.

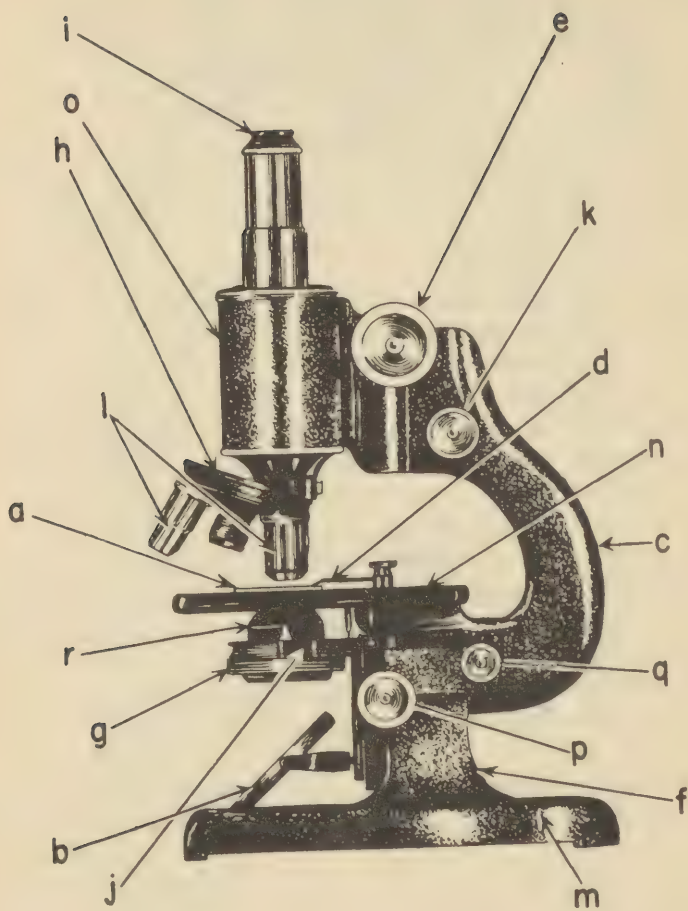


452. The property of saliva that aids in reducing the number of organisms in the mouth is called
- (a) fluid.
  - (b) mucous.
  - (c) antiseptic.
  - (d) lubricant.
- 
453. The procedure whereby oral infections may be carried by the blood stream to other parts of the body, where additional infection is started, is called
- (a) focus of infection.
  - (b) focal infection.
  - (c) septicemia.
  - (d) bacteriemia.
- 
454. The two organisms most frequently responsible for general systemic disorders which originate from dental infections are
- (a) *Streptococcus hemolyticus* and *viridans*.
  - (b) *Staphylococcus aureus* and *albus*.
  - (c) *Spirillum Vincenti* and *Fusiform bacillus*.
  - (d) *Lactobacillus acidophilus* and *Blas-tomycetes*.
- 
455. A clump-like formation consisting of bacteria, debris, and mucin lodged on a tooth surface is known as
- (a) bacterial clump.
  - (b) dental calculus.
  - (c) enamel cuticle.
  - (d) bacterial plaque.
- 
456. In order to determine the sterility of a root canal, a culture containing a canal point is incubated for a period of
- (a) 10 hours.
  - (b) 24 hours.
  - (c) 72 hours.
  - (d) 108 hours.
-

457. The microorganism generally believed to be responsible for liberating acid that dissolves enamel and causes caries is
- (a) *Streptococcus hemolyticus*.
  - (b) *Lactobacillus acidophilus*.
  - (c) *Streptococcus viridans*.
  - (d) *Staphylococcus aureus*.
- 
458. In dental caries, after the enamel of a tooth has been dissolved and the dentin exposed, the microorganisms usually
- (a) disappear.
  - (b) become inactive.
  - (c) continue their activity and infect the pulp.
  - (d) form spores.
- 
459. The oil immersion lens of a microscope is the objective with the
- (a) lowest magnifying power.
  - (b) medium magnifying power.
  - (c) highest magnifying power.
- 
460. Oil is used with the oil immersion objective of a microscope to
- (a) obtain better light refraction.
  - (b) lubricate the lens.
  - (c) lubricate the slide.
  - (d) prevent breaking the slide.
- 
461. When focusing a microscope, the objective should be adjusted in the direction of the
- (a) slide.
  - (b) stage.
  - (c) shutter.
  - (d) eye.
- 
462. Oil should be removed from the oil immersion lens of a microscope with a piece of lens paper dampened with
- (a) alcohol.
  - (b) water.
  - (c) xylol.
  - (d) eugenol.
-

463. The list below contains the names of various parts of a microscope. These parts have been indicated by letters in figure 1. In the blank following each item in the list, place the letter which designates that item in the figure.

- |                                 |       |
|---------------------------------|-------|
| (1) glass slide                 | _____ |
| (2) arm                         | _____ |
| (3) pillar                      | _____ |
| (4) substage                    | _____ |
| (5) body tube                   | _____ |
| (6) coarse adjustment           | _____ |
| (7) stage                       | _____ |
| (8) ocular lens                 | _____ |
| (9) iris diaphragm or shutter   | _____ |
| (10) revolving nosepiece        | _____ |
| (11) base                       | _____ |
| (12) spring clip                | _____ |
| (13) fine adjustment            | _____ |
| (14) abbe or substage condenser | _____ |
| (15) substage adjustment        | _____ |
| (16) inclination joint          | _____ |
| (17) mirror                     | _____ |
| (18) objectives                 | _____ |



**Figure 1. Parts of a microscope.**

## ASSIGNMENT NO. 16

### ORGANIZATION OF THE DENTAL DEPARTMENT ON BOARD SHIP OR STATION

Before you answer these questions study paragraphs 1336-1356 in *Manual of the Medical Department, U. S. Navy, 1945.*

#### INSTRUCTION TEST

Select the one best answer to each question and write its letter on the line at the right.

464. Each recruit shall be examined as soon as practicable after arrival at the training center, and a notation of every dental condition found shall be made in the

- (a) medical history sheet.
- (b) Dental Record.
- (c) Health Record.
- (d) physical examination.

---

465. The chief of the dental service at a naval hospital shall have the same status, in his relation to the medical officer in command and the executive officer, as other

- (a) medical officers.
- (b) dental officers.
- (c) chiefs of services.
- (d) staff personnel.

---

466. For the issue of small stores and clothing, the enlisted men of the dental department are under the

- (a) medical officer.
- (b) supply officer.
- (c) dental officer.
- (d) first lieutenant.

---

467. The dental department in a ship includes
- (a) only dental officers.
  - (b) enlisted dental technicians.
  - (c) all personnel assigned for duty with the dental department.
- 
468. The head of the dental department of a ship shall be designated the
- (a) senior medical officer.
  - (b) dental officer.
  - (c) hospital corps officer.
  - (d) medical officer.
- 
469. The dental division includes all personnel detailed for duty with the dental department and it musters at quarters at a place designated by the
- (a) first lieutenant.
  - (b) executive officer.
  - (c) medical officer.
  - (d) commanding officer.
- 
470. The watch, quarter and station bill, and other bills which apply to personnel of the dental division, shall be posted in the
- (a) sick bay.
  - (b) crew's mess hall.
  - (c) Executive Officer's office.
  - (d) dental division living compartment.
- 
471. The usual report regarding absentees from the dental department should be made by the
- (a) junior medical officer.
  - (b) junior dental officer.
  - (c) enlisted dental technician.
  - (d) dental officer.
-



## ASSIGNMENT NO. 17

### ORAL HYGIENE

Before you answer these questions study pages 189-200 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

472. The most important single factor in the maintenance of oral hygiene is

- (a) scaling.
  - (b) tooth brushing.
  - (c) mouth rinses.
  - (d) mechanical stimulation of oral tissues.
- 

473. Proper tooth brushing affects the formation of calculus in that it

- (a) prevents it.
  - (b) retards it.
  - (c) does not affect it.
  - (d) increases it.
- 

474. The dental periosteum, alveolar bone and process, and the gingival tissues, make up the

- (a) corpus luteum.
  - (b) paradentium.
  - (c) cementum.
  - (d) periodental membrane.
- 

475. A tooth brush should be

- (a) large, so that many teeth can be brushed with one motion.
  - (b) moderately stiff and small to allow better access.
  - (c) soft, so as not to injure the gums.
  - (d) very stiff for good cleansing action.
-

476. In regard to tooth pastes and powders,  
(a) any dentifrice is good so long as it contains a good supply of pumice.  
(b) many tooth pastes and powders are acceptable for use.  
(c) very few pastes and powders manufactured are acceptable for use.  
(d) pumice and salt are better than any of the "popular" pastes or powders for daily use. \_\_\_\_\_
477. The teeth should be brushed at least twice each  
(a) day.  
(b) week.  
(c) year.  
(d) month. \_\_\_\_\_
478. The teeth should be brushed for at least  
(a) one minute.  
(b) three minutes.  
(c) ten minutes.  
(d) twenty minutes. \_\_\_\_\_
479. The motion used in brushing the upper teeth is  
(a) downward.  
(b) crosswise.  
(c) upward.  
(d) oblique. \_\_\_\_\_
480. Salivary calculus, found on the exposed surfaces of the teeth, is called  
(a) chromogenic.  
(b) supragingival calculus.  
(c) serumal calculus.  
(d) subgingival calculus. \_\_\_\_\_
481. The type of calculus found inside the gingival crevice is called  
(a) salivary calculus.  
(b) coronal calculus.  
(c) supragingival calculus.  
(d) subgingival or serumal calculus. \_\_\_\_\_

482. The yellowish-white sticky material which forms a mucous or bacterial plaque, in which calcium and phosphorus salts are precipitated to form calculus, is called

- (a) trypsin.
  - (b) ptyalin.
  - (c) saliva.
  - (d) mucin.
- 

483. Calculus usually accumulates

- (a) evenly throughout the mouth.
  - (b) only on rough unclean surfaces.
  - (c) more in certain areas, especially near gland openings.
  - (d) only on natural teeth—never on artificial teeth.
- 

484. A good solution for staining calculus to make it more visible is

- (a) an iodine solution.
  - (b) 70% alcohol.
  - (c) eugenol.
  - (d) chromic acid.
- 

485. In using the tactile method (with an explorer), the presence of calculus can be determined by

- (a) its smooth velvet-like surface.
  - (b) a ledge or roughness that is felt.
  - (c) the stain that appears.
  - (d) the pain the patient feels when it is touched.
- 

486. The thorough removal of calculus from the teeth is important because

- (a) it is a sure cure for halitosis.
  - (b) caries is decreased.
  - (c) it lightens the color of teeth.
  - (d) it does more for the health of the gingivae than any other procedure.
-

487. One of the important requirements in doing good scaling is
- (a) to remove the calculus with the least possible damage to gingival tissues.
  - (b) to use only the Zerfing scaler.
  - (c) to scale well below the attachment of the gingival tissues.
  - (d) to use a solution to soften the calculus.
- 
488. The epithelial attachment, during scaling, is felt as a
- (a) rough and flinty surface.
  - (b) smooth and hard surface.
  - (c) slight smooth bump.
  - (d) gentle resistance to further introduction of a scaler.
- 
489. When scaling the left maxillary molar and bicuspid areas on the lingual aspect, the patient is raised to the proper level and his head is turned
- (a) to the left.
  - (b) to the right.
  - (c) downward.
  - (d) at a 180 degree angle.
- 
490. A fulcrum is a
- (a) wrench to tighten the bracket table arm.
  - (b) solid support to obtain leverage.
  - (c) sore, sometimes called a canker sore.
  - (d) an instrument with a pencil-like grip.
- 
491. When holding a scaling instrument there are two principal grasps; one is the pencil grasp, the other is the
- (a) exploratory grasp.
  - (b) fulcrum grasp.
  - (c) palm grasp.
  - (d) forcep grasp.
-

492. Scaling the internal surfaces of the maxillary incisors is accomplished by
- (a) standing on the left side of the patient.
  - (b) standing at the right and in front of the patient.
  - (c) standing behind the patient and using a mouth mirror.
  - (d) standing at the left and in front of the patient.
- 
493. The Zerfing scaler is a
- (a) push type instrument.
  - (b) pull type instrument.
  - (c) filing instrument.
  - (d) hawkbill shaped scaler.
- 
494. The Darby-Perry, Thorpe, and Gracey scalers are of the
- (a) pull type.
  - (b) push type.
  - (c) filing type.
  - (d) double ended type.
- 
495. The Zerfing scaler is extremely valuable
- (a) for scaling children's teeth.
  - (b) for calculus on anterior teeth.
  - (c) for upper third molars.
  - (d) for extremely loose teeth.
- 
496. It is not safe to give a prophylaxis when
- (a) there are carious areas in teeth.
  - (b) gingivae are highly inflamed and ulcerated.
  - (c) the patient has a cold.
  - (d) there are bacteria in the mouth.
- 
497. When polishing the teeth, there is less danger of damaging the tissues if the following is used:
- (a) rubber cups.
  - (b) disks.
  - (c) brushes.
  - (d) abrasive wheels.
-

498. The speed of the dental engine is controlled by the
- (a) rheostat.
  - (b) hand switch.
  - (c) thermostat.
  - (d) automat.
- 
499. After polishing the buccal, lingual, and occlusal surfaces of teeth,
- (a) give the patient an antiseptic mouth wash and dismiss him.
  - (b) polish the proximal surfaces with fine linen strips or dental floss and fine pumice.
  - (c) polish the cementum with sand-paper disks.
  - (d) give the patient some fine pumice with instructions to use some to remove stain when it begins to appear.
- 
500. After use, the handpiece should be
- (a) placed in a cold sterilizing solution until again used.
  - (b) thoroughly run in cold salt water, wiped off, and then placed in the sterilizer.
  - (c) carefully wiped off with alcohol.
  - (d) thoroughly cleaned, sterilized, and lubricated.
-



## ASSIGNMENT NO. 18

### MATERIA MEDICA

Before you answer these questions study pages 357-368 in *Handbook for Dental Technologists (General)*, 1945 edition, and pages 602-603 in *Handbook of the Hospital Corps, U. S. Navy*, 1939 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

501. Oil of cloves is a volatile oil and is used as

- (a) a cathartic.
  - (b) a flavoring agent.
  - (c) a constituent of sedative cements.
- \_\_\_\_\_

502. Zinc oxide is a very fine amorphous, white powder and is a constituent of

- (a) amalgams.
  - (b) dental cements.
  - (c) gutta percha.
- \_\_\_\_\_

503. The unit of length in the metric system is a

- (a) centimeter.
  - (b) meter.
  - (c) millimeter.
- \_\_\_\_\_

504. The avoirdupois weights and measures are used

- (a) in commercial buying and selling.
  - (b) by jewelers.
  - (c) by pharmacists.
- \_\_\_\_\_

505. The abbreviation A. D. R. stands for

\_\_\_\_\_

506. The abbreviation N. F. stands for

\_\_\_\_\_

507. The letters used to abbreviate "Pharmacopeia of the U. S. A." are \_\_\_\_\_.

\_\_\_\_\_

In the space at the right of each item in list B, print the letter of the most closely related item in list A.

- | 508. | A  | B  |
|------|--|--|
|      | (a) Medicament applicators and cotton pellets.                                 | (1) are never passed across a patient in the dental chair. _____   |
|      | (b) Medicine to be used is placed in a dappen dish.                            | (2) by placing one of the drugs in the deep cup of one dappen dish and the second drug in the shallow base of another. _____ |
|      | (c) Medicine should never be left on the bracket table.                        | (3) for the purpose of positive identification of each drug. _____   |
|      | (d) Dappen dishes are colored.   | (4) longer than the time required for their application. _____   |
|      | (e) Another means of distinguishing between two medicines may be accomplished. | (5) and then placed on the bracket table for the Dental Officer's convenience. _____   |
|      | (f) Medicines.   | (6) should never be dipped into a dispensing bottle. _____   |

Fill in the blanks in the following

509. \_\_\_\_\_ grains make one scruple. (apothecaries' weight)
510. \_\_\_\_\_ scruples make one dram. (apothecaries' weight)
511. \_\_\_\_\_ dram ; make one ounce. (apothecaries' weight)
512. \_\_\_\_\_ ounces make one pound. (apothecaries' weight)
513. \_\_\_\_\_ grains make one pennyweight. (troy weight)
514. \_\_\_\_\_ pennyweights make one ounce. (troy weight)
515. \_\_\_\_\_ ounces make one pound. (troy weight)

## ASSIGNMENT NO. 19

### ORAL PATHOLOGY

Before you answer these questions study pages 175-202 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Select the one best answer to each problem and write its letter on the line at the right.

516. Caries is a process characterized by two stages; the first a dissolution of lime salts by one of the following acids:

- (a) hydrochloric.
- (b) lactic.
- (c) phosphoric.
- (d) nitric.

---

517. In dental caries, after the dissolution of lime salts by acid, the second stage is the removal of the remaining

- (a) organic matrix.
- (b) calculus.
- (c) green stain.
- (d) dentin.

---

518. In caries of dentin, a leathery structure is formed as the result of

- (a) cavity preparation.
- (b) local anesthesia.
- (c) decalcification.
- (d) hypoplastic changes.

---

519. One of the contents of drinking water, which has recently been found to lessen dental caries, is

- (a) fluorine.
- (b) phosphorus.
- (c) salt.
- (d) hydrogen.

---

520. Acid formation on the surface of enamel seems to be inhibited by
- (a) calcium.
  - (b) fluorine.
  - (c) dentin.
  - (d) mucin.
- 
521. The acid which initiates caries forms in pits and fissures or enamel lamellae and penetrates rapidly to the
- (a) enamel cuticle.
  - (b) gums.
  - (c) dentino-enamel junction.
  - (d) genial tubercle where it stops.
- 
522. In order that a minimum amount of tissue damage will be done to the epithelial attachment, the technician should use the utmost care in removing
- (a) teeth.
  - (b) caries.
  - (c) sutures.
  - (d) calculus.
- 
523. Inflamed gums will usually return to normal if the technician will carefully remove the
- (a) teeth.
  - (b) epithelium.
  - (c) attachment.
  - (d) calculus.
- 
524. The primary cause of most marginal gingivitis is
- (a) smoking.
  - (b) bacteria.
  - (c) calculus.
  - (d) heredity.
- 
525. Abrasion is caused by
- (a) caries.
  - (b) wearing by a foreign substance.
  - (c) normal chewing.
  - (d) acids.
-

526. In Vincent's infection it has been demonstrated that there are present in the sub-epithelial tissues
- (a) micro-organisms.
  - (b) salivary calculus.
  - (c) carious areas.
  - (d) fibroblasts.
- 
527. Erosion is a loss of tooth structure
- (a) found affecting the surfaces of teeth, usually at the necks.
  - (b) involving the occlusal surface only.
  - (c) due to wearing processes.
  - (d) due to the presence of fluorides.
- 
528. Attrition is loss of tooth structure due to normal chewing and usually involves
- (a) gingival areas.
  - (b) pulp.
  - (c) the cusps of teeth and contact points.
  - (d) the external surface of the tooth.
- 
529. An enlarged lump or swelling in any patient's mouth
- (a) is probably a serious condition and the dental officer's attention should be called to it.
  - (b) will usually disappear within 24 hours.
  - (c) can be treated by a dental technician.
  - (d) is invariably from an alveolar abscess.
- 
530. Vincent's infection is associated with
- (a) Vincent's spirochete and Fusiform bacillus.
  - (b) *Lactobacillus acidophilus*.
  - (c) *Treponema pallidum*.
  - (d) streptococci.
-

531. Vincent's gingivitis is also called
- (a) ulceromembranous gingivitis.
  - (b) herpetic stomatitis.
  - (c) hypertrophic gingivitis.
  - (d) Vincent's angina.
-



## ASSIGNMENT NO. 20

### DENTAL CEMENTS

Before you answer these questions study pages 287-308 in *Handbook for Dental Technologists (General)*, 1945 edition.

#### INSTRUCTION TEST

Write on the line or lines to the right of each statement the word or words omitted from that statement.

#### Zinc Phosphate Cements

532. Always use a \_\_\_\_\_ mixing slab and spatula to spatulate zinc phosphate cement. \_\_\_\_\_
533. Do not place the cement powder and liquid on the slab \_\_\_\_\_ the dental officer is ready for the mixing procedure. \_\_\_\_\_
534. In order to properly preserve the powder and liquids they should not be \_\_\_\_\_ to the atmosphere for any greater time than is necessary to mix them. \_\_\_\_\_
535. The average mix takes from 1 1/4 to 1 1/2 minutes for \_\_\_\_\_

Select the one best answer to each problem and write its letter on the line at the right.

536. When spatulating or mixing zinc phosphate cement the first portion should be spatulated with a circular motion over a
- (a) wide area of the slab for 15 seconds.
  - (b) small area of the slab for 15 seconds.
  - (c) wide area of the slab for 15 minutes.
- \_\_\_\_\_

537. A cement that is to be used for a base under a filling should be spatulated to a consistency which is
- (a) lighter than that used for cementation of a crown.
  - (b) the same as that used for cementation of a bridge.
  - (c) heavier than that used for cementation of any restoration.
538. A reasonable setting time for zinc phosphate cement is
- (a) 5 to 10 seconds.
  - (b) 45 seconds.
  - (c) 6 to 10 minutes.
  - (d) 20 minutes.
- 

### Silicate Cement

539. After removing the desired amount from a bottle of silicate cement liquid
- (a) replace the stopper immediately.
  - (b) leave the bottle open for a short period of airing.
  - (c) close the bottle partially to allow gas to escape.
  - (d) add water to rectify the dilution.
540. When silicate cement is spatulated, the glass slab should be
- (a) heated to the desired temperature under warm water.
  - (b) left at room temperature in all instances.
  - (c) kept between 65 and 75 degrees F.
  - (d) cooled below the dew point.
541. The best results are obtained from silicate cement if the spatulation is completed in
- (a) 30 seconds.
  - (b) 1 1/2 minutes.
  - (c) 3 minutes.
  - (d) 5 minutes.
-

542. The thermal conductivity of gutta percha is
- (a) very low.
  - (b) very high.
  - (c) the same as an amalgam restoration.
  - (d) the same as gold inlays.
- 
543. Chloropercha is made by dissolving gutta percha in
- (a) chlorophyll.
  - (b) chlorine.
  - (c) chloroform.
  - (d) eucalyptol.
- 

**Encircle the letter *T* if the statement is entirely true. If any part of the statement is false, encircle the letter *F*.**

- |  |          |          |
|--|----------|----------|
| 544. Silicate cement is the choice restorative material for the posterior teeth.   | <b>T</b> | <b>F</b> |
| 545. The color of silicate cement powders can readily be affected by contamination with dust or dirt.  | <b>T</b> | <b>F</b> |
| 546. The setting reaction of silicate cement proceeds rapidly once the setting has started.  | <b>T</b> | <b>F</b> |
| 547. The setting reaction of silicate cement is not reversible.  | <b>T</b> | <b>F</b> |
| 548. Never under any circumstances should more than one minute be consumed in spatulating a mix of silicate cement.  | <b>T</b> | <b>F</b> |
| 549. Thirty seconds for spatulating silicate cements gives the best results.   | <b>T</b> | <b>F</b> |
| 550. The celluloid strip should be coated with a filling lubricant or coca butter before it is used as a matrix for placing a silicate cement restoration. | <b>T</b> | <b>F</b> |
| 551. The cement slab should not be cooled prior to using it for spatulating silicate cement.   | <b>T</b> | <b>F</b> |

- |      |  |   |   |
|------|--|---|---|
| 552. | The methods of mixing crown and bridge cement and that of mixing silicate cement are considerably different. | T | F |
| 553. | When mixing silicate cements the cement slab should be cooled to a temperature between 65 and 70 degrees F.  | T | F |

## ANSWERS TO ASSIGNMENTS

### Assignment No. 1

1. T	20. T	38. T
2. T	21. F	39. T
3. T	22. T	40. T
4. T	23. T	41. T
5. T	24. F	42. T
6. F	25. T	43. T
7. T	26. T	44. F
8. T	27. F	45. T
9. F	28. T	46. T
10. T	29. T	47. F
11. T	30. F	48. T
12. T	31. F	49. F
13. F	32. F	50. F
14. T	33. T	51. T
15. T	34. F	52. T
16. T	35. T	53. T
17. T	36. T	54. T
18. T	37. T	55. T
19. T		56. T

### Assignment No. 2

57. d	68. b	79. b
58. c	69. a	80. c
59. a	70. d	81. a
60. b	71. a	82. a
61. b	72. b	83. c
62. c	73. a	84. b
63. a	74. c	85. b
64. a	75. a	86. a
65. a	76. a	87. c
66. c	77. b	88. a
67. c	78. b	89. a

### Assignment No. 3

90. b	98. b	106. a
91. a	99. c	107. a
92. b	100. b	108. b
93. a	101. c	109. d
94. c	102. d	110. c
95. b	103. c	111. c
96. a	104. a	
97. a	105. a	

#### Assignment No. 4

112. a	131. c	150. F
113. b	132. a	151. F
114. c	133. b	152. T
115. c	134. c	153. T
116. a	135. a	154. F
117. a	136. c	155. T
118. b	137. c	156. T
119. c	138. c	157. T
120. a	139. a	158. T
121. c	140. c	159. F
122. c	141. d	160. T
123. c	142. a	161. F
124. a	143. c	162. T
125. b	144. a	163. F
126. c	145. b	164. T
127. d	146. a	165. F
128. c	147. c	166. T
129. b	148. b	167. T
130. c	149. a	168. F

#### Assignment No. 5

169. c	176. b	183. a
170. d	177. c	184. b
171. a	178. a	185. b
172. c	179. b	186. a
173. a	180. b	187. a
174. b	181. c	188. c
175. a	182. b	189. a

#### Assignment No. 6

190. digestion	195. pharynx	200. small intestine
191. mastication	196. tongue	201. large intestine.
192. deglutition	197. abdominal	202. a
193. defaecation	198. peritoneum	203. c
194. alimentary canal	199. stomach	204. d

#### Assignment No. 7

205. d	210. a	215. b
206. d	211. b	216. b
207. d	212. c	217. c
208. b	213. b	
209. a	214. c	



### Assignment No. 8

218. micron	228. c	(2) d
219. non-pathogenic	229. d	(3) c
220. pathogenic	230. a	(4) a
221. aerobes	231. a	(5) e
222. anaerobes	232. c	238. (1) a
223. spores	233. a	(2) c
224. stains	234. b	(3) d
225. dark field	235. a	(4) g
226. carrier	236. c	(5) h
227. b	237. (1) b	

### Assignment No. 9

239. b	253. a	267. F
240. a	254. a	268. F
241. b	255. b	269. T
242. d	256. b	270. T
243. b	257. a	271. T
244. a	258. T	272. F
245. b	259. T	273. T
246. c	260. F	274. F
247. a	261. T	275. T
248. a, b	262. T	276. T
249. b, e	263. F	277. F
250. a, b	264. T	278. T
251. a, b	265. F	279. T
252. a	266. F	280. T

### Assignment No. 10

281. (1) mesial	(3) lingual	(6) incisal
(2) distal	(4) labial	(7) occlusal
	(5) buccal	
282. (1) 8	(12) 16	(22) 1
(2) 5	(13) 25	(23) 15
(3) 10	(14) 31	(24) 20
(4) 2	(15) 22	(25) 6
(5) 12	(16) 28	(26) 32
(6) 17	(17) 13	(27) 18
(7) 7	(18) 11	(28) 9
(8) 19	(19) 4	(29) 24
(9) 14	(20) 23	(30) 29
(10) 3	(21) 27	(31) 30
(11) 21		(32) 26

### Assignment No. 10 (Continued)

- |                        |                        |                          |
|------------------------|------------------------|--------------------------|
| 283. (1) L             | (4) M                  | (7) D                    |
| (2) O                  | (5) La                 |                          |
| (3) B                  | (6) I                  |                          |
| 284. (1) missing tooth | (3) amalgam            | (6) fixed bridge         |
| (2) edentulous mouth   | (4) cement             |                          |
|                        | (5) gold restoration   |                          |
| 285. (1) caries        | (3) impacted tooth     | (5) fistula              |
| (2) cement restoration | (4) abscess periapical | (6) requiring extraction |
| 286. Record            | 290. b                 | 294. b                   |
| 287. remarks           | 291. c                 | 295. c                   |
| 288. c                 | 292. b                 | 296. b                   |
| 289. b                 | 293. b                 |                          |

### Assignment No. 11

- |                        |                      |                        |
|------------------------|----------------------|------------------------|
| 297. alloy             | 305. flow            | 312. alloy mercury     |
| 298. amalgam           | 306. matrix band     | 313. setting           |
| 299. amalgam carrier   | 307. matrix retainer | 314. squeeze cloth     |
| 300. carver            | 308. mercury         | 315. trituration       |
| 301. amalgamator       | 309. mortar          | 316. amalgam burnisher |
| 302. plugger           | 310. mulling         | 317. amalgam           |
| 303. annealing         | 311. pestle          | 318. segmentation      |
| 304. crushing strength |                      |                        |

### Assignment No. 12

- |           |           |           |
|-----------|-----------|-----------|
| 319. 1. a | 3. d      | 5. c      |
| 2. d      | 4. e      | 6. j      |
| 3. e      | 321. 1. i | 7. d      |
| 4. g      | 2. b      | 8. m      |
| 320. 1. a | 3. l      | 9. e      |
| 2. b      | 4. g      | 10. f     |
| 322. c    | 326. b    | 330. c    |
| 323. a    | 327. d    | 331. a    |
| 324. c    | 328. d    | 332. d    |
| 325. b    | 329. b    | 333. a, b |

### Assignment No. 13

334. c	350. a	367. c
335. b	351. a	368. d
336. c	352. d	369. d
337. a	353. c	370. a
338. a	354. c	371. c
339. b	355. b	372. c
340. a	356. c	373. d
341. c	357. c	374. c
342. a	358. d	375. a
343. d	359. c	376. c
344. b	360. c	377. b
345. a	361. a	378. c
346. a	362. c	379. b
347. c	363. c	380. b
348. c	364. d	381. d
349. a	365. c	382. b
	366. c	

### Assignment No. 14

383. c	391. c	399. b
384. b	392. c	400. a
385. a	393. a	401. b
386. b	394. d	402. c
387. a	395. c	403. b
388. c	396. c	404. c
389. d	397. c	405. b
390. a	398. b	406. d

### Assignment No. 15

407. c	422. c	437. d
408. a	423. d	438. c
409. c	424. b	439. a
410. b	425. b	440. b
411. b	426. c	441. a
412. a	427. b	442. b
413. c	428. a	443. d
414. d	429. d	444. b
415. c	430. c	445. a
416. a	431. c	446. a
417. b	432. a	447. c
418. a	433. c	448. b
419. d	434. d	449. a
420. b	435. c	450. c
421. c	436. b	451. b

### Assignment No. 15 (Continued)

452. c	456. c	460. a
453. b	457. b	461. d
454. a	458. c	462. c
455. d	459. c	
463. (1) a	(7) n	(13) k
(2) c	(8) i	(14) r
(3) f	(9) g	(15) p
(4) j	(10) h	(16) q
(5) o	(11) m	(17) b
(6) e	(12) d	(18) l

### Assignment No. 16

464. b	467. c	470. d
465. c	468. b	471. d
466. c	469. d	

### Assignment No. 17

472. b	482. d	492. c
473. b	483. c	493. a
474. b	484. a	494. a
475. b	485. b	495. b
476. b	486. d	496. b
477. a	487. a	497. a
478. b	488. d	498. a
479. a	489. a	499. b
480. b	490. b	500. d
481. d	491. c	

### Assignment No. 18

501. c	507. U.S.P.	510. 3
502. b	508. (1) f	511. 8
503. b	(2) e	512. 12
504. a	(3) d	513. 24
505. Accepted Dental Remedies	(4) c	514. 20
	(5) b	515. 12
506. The National Formulary	(6) a	
	509. 20	

### Assignment No. 19

516. b	522. d	527. a
517. a	523. d	528. c
518. c	524. c	529. a
519. a	525. b	530. a
520. b	526. a	531. a
521. c		

### Assignment No. 20

532. clean	540. c	548. T
533. before	541. a	549. T
534. exposed	542. a	550. F
535. spatulation	543. c	551. F
536. a	544. F	552. T
537. c	545. T	553. T
538. c	546. T	
539. a	547. T	

# QUALIFICATIONS FOR ADVANCEMENT IN RATING

## DENTALMEN

### RATING CODE NO. 950

#### General Service Rating

Dentalmen (fifth pay grade) are personnel in training for advancement to the rating, Dental Technician. They perform such elementary duties as equipping dental cabinets with sterile instruments, dressings and medicines; cleaning and servicing dental equipment; preparing trays for impressions; boxing and pouring impressions; and polishing simple prosthetic appliances. They also keep dental records and perform routine clinical duties.

#### EMERGENCY SERVICE RATING

Same as General Service Rating.

### NAVAL JOB CLASSIFICATIONS

#### *Group Code Numbers*

**90000-99999**

#### *Group Titles*

**DENTAL**

### **.100 PRACTICAL FACTORS**

#### **.101 FIRST AID**

Apply various types of bandages, splints, and dressings.  
Give artificial respiration.

Administer first-aid treatment to the injured and sick.

Transport wounded manually.

Render dental first-aid.

#### **.102 INSTRUMENTS AND MATERIALS**

Use and care of dental instruments, including sterilization and arrangement.

#### **.103 RECORDS AND CHARTS**

Inscribe dental written and graphic records.

#### **.104 ASSISTING THE DENTAL OFFICER**

Assist in simple routine dental operations.



## **.200 EXAMINATION SUBJECTS**

### **.201 ANATOMY, PHYSIOLOGY, PATHOLOGY AND BACTERIOLOGY**

Fundamental principles of biology.

Cell and tissue structure.

Nomenclature, location, and functions of bones. (Osteology)

Nomenclature, location and functions of muscles. (Myology)

Elementary description and function of circulatory system.

Elementary description and function of respiratory system.

Elementary description and function of digestive system.

Elementary gross description and function of the permanent human dentition.

Elementary description of enamel, dentin, and pulp.

Elementary Pathology and Bacteriology.

### **.202 FIRST AID**

Elementary rules for first aid to the injured.

Bandages and bandaging.

Dressings for battle wounds.

Splints employed in first-aid.

Decontamination of gas casualties.

Dental first-aid.

### **.203 DENTAL OPERATIVE ASSISTANCE**

Routine procedures.

Preparation for patient.

Preparation of patient.

Manipulation of materials for restorations.

Postoperative care.

### **.204 SPECIALIZED TECHNICAL EXAMINATIONS**

All Dentalmen who have been designated by the Bureau of Medicine and Surgery as dental prosthetic laboratory technicians, dental maintenance and repair technicians, dental property and accounting technicians, dental clerical technicians, dental X-ray technicians, acrylic eye illustrators, and so forth, will be given special examination questions in their specialties. The special section of the examination shall include 25% of the total number of questions, the remaining 75% to be chosen from the questions in the general examination for Dentalman. All examinations shall have the same number of questions; therefore, an equal number of questions, as nearly as possible, should be eliminated from .201, .202, .203, and .205 for the special examinations so that a question receives the same value or credit each time it is asked, on either kind of examination.

### **.205 ORGANIZATION**

Organization of Dental Department aboard own ship or at station.





